

FACULTY OF ECONOMICS AND BUSINESS ADMINISTRATION

INSIGHTS IN CHILDREN'S CONSUMER RELATED ACTIVITIES AND REACTIONS TO ADVERTISING

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NEDERLANDSTALIGE SAMENVATTING

Spelen, televisie kijken, lezen van boeken, eten, leren ... in vrijwel alle activiteiten die kinderen dagelijks ondernemen kunnen ze in contact komen met onze consumentencultuur. Ze zien reclamespotjes op televisie, ze spelen met speelgoed en maken daarbij beslissingen die gebaseerd zijn op advertenties die ze eerder zagen of spelen op een manier zoals die door de speelgoedmakers werd voorgesteld. Kinderen zijn mini-consumenten, maar staan op een andere manier dan volwassenen in deze consumptiemaatschappij. Zo zijn kinderen bijvoorbeeld nog maar net in de beginfase van consumentensocialisatie en leren ze nog maar net hoe bepaalde elementen in dit proces werken (John, 1999). Dit kan hen bijzonder kwetsbaar maken voor marketing-inspanningen en kan ook andere reacties teweeg brengen (Buijzen & Valkenburg, 2003). Dit doctoraat bekijkt twee activiteiten die binnen het leven van kinderen belangrijk zijn als contactbron voor het aanleren en uiten van consumptie, namelijk speelgedrag (dat kan aanzien worden als een gebruiksactiviteit binnen consumptie, aangezien kinderen speelgoed en spelletjes gebruiken) en blootstelling aan reclame (wat kan aanzien worden als een activiteit binnen consumptie waarbij het doel ervan vaak is om kinderen aan te zetten tot het wensen en verwerven van de geadverteerde producten).

Het eerste deel van dit doctoraat onderzoekt het speelgedrag van kinderen. Spelen is een activiteit waar kinderen veel tijd aan besteden en waarin ook verschillende elementen van het consumentenproces sluimeren (Ward, 1974). Het speelgoed en de spelletjes waar kinderen bijvoorbeeld mee spelen hebben ze misschien cadeau gekregen van ouders, geleend via vriendjes, gedeeld met broers en zussen of gekocht met eigen zakgeld. Deze producten werden ook geadverteerd en in de markt gezet door speelgoedfabrikanten. Speelgedrag bevat ook bepaalde keuzes die kunnen gerelateerd zijn aan consumeren: hoe zullen kinderen gaan spelen en wat zal hun spelkeuze beïnvloeden?

In het tweede hoofdstuk wordt daarom nagegaan of speelgedrag een activiteit is waarop de mate van materialisme van een kind een invloed kan hebben. Ondanks het belang van spelen in het leven van kinderen (Barnett, 1984) en ondanks de bezorgdheid die er bestaat dat onze maatschappij steeds materialistischer zou worden, is er weinig onderzoek dat specifiek het verband tussen spelen en materialisme onderzoekt. Binnen consumentengedrag kijkt men bovendien ook zelden naar gedrag (zoals spelen) dat afwijkt van het standaard aankoopgedrag (Pham, 2013). Daarom kan het belangrijk zijn om na te gaan in welke mate

materialisme een rol speelt in het speelgedrag van kinderen en van invloed kan zijn op de speeldoelen die kinderen vooropstellen. Kunnen er bijvoorbeeld materialistische motieven aan het werk zijn wanneer kinderen beslissen om vermoeid en zonder al te veel plezier toch maar verder te werken aan een schilderij –simpelweg om het af te krijgen en aan de muur te kunnen hangen om ermee te pronken?

Dit hoofdstuk toont deze hypothese aan en bewijst dat kinderen enerzijds een spel kunnen spelen omdat ze gemotiveerd raken door het proces van het spel, we noemen hen dan ook proces georiënteerd, anderzijds kunnen ze een spel spelen omdat ze voldoening halen uit de uitkomst van dat spel, we noemen hen uitkomst georiënteerd. Dit uitkomst-georiënteerde spelen is voornamelijk gerelateerd aan materialistische waarden. Daarnaast tonen we ook aan dat beide oriëntaties als waardevol kunnen worden beschouwd in functie van het bereiken van intrinsieke motivatie (zoals interesse en voldoening). Zowel kinderen die spelen omdat het eindresultaat belangrijk is als kinderen die spelen omdat het proces belangrijk is, kunnen daar in zekere mate intrinsieke motivatie uit halen. Dit betekent dus ook dat materialisme onrechtsreeks kan leiden tot intrinsieke motivatie, aangezien het gerelateerd is aan uitkomstgericht spelen en kinderen daar voldoening uit halen. Men kan zich afvragen in welke mate kinderen nog voldoening en motivatie kunnen halen uit activiteiten waarbij het eindresultaat er wel is, maar niet volledig perfect is. In het dagelijkse leven komen imperfecte resultaten en uitkomsten wel vaker voor wanneer kinderen spelen, bijvoorbeeld wanneer een puzzel niet kan afgewerkt worden omdat er stukjes ontbreken. We tonen aan dat materialisten voldoening halen uit elke soort uitkomst (perfect of imperfect), wat ook hun uitkomstgerichtheid (ondanks wat) nogmaals onderstreept. Anderzijds zijn minder materialistische kinderen gekant tegen het bereiken van een uitkomst binnen een spel: zij halen net veel voldoening uit een imperfect resultaat, mogelijks omdat dit een situatie is waarbij ze het spel nog niet volledig moeten afronden. Deze bevindingen tonen aan dat materialisme -en zelfs een aversie tegen materiële waarden- vervat zit in de manier waarop kinderen voldoening halen uit een alledaagse activiteit zoals spelen.

Het derde hoofdstuk gaat dan weer in op de manier waarop kinderen spelen. Als men kijkt naar de speelgoedmarkt, zijn er belangrijke verschillen op te merken in de manier waarop sommige spelletjes worden voorgesteld. Lego bijvoorbeeld heeft speelgoed op de markt gebracht in de vorm van bouwdozen met gedetailleerde beschrijvingen, plannetjes en instructies die beschrijven hoe kinderen een schoonheidssalon, een ruimteschip of een

boomhut kunnen maken. Anderzijds verkoopt Lego ook pakketten waarin ze deze instructies niet centraal zetten, maar eerder een mengeling van blokken, bouwplaten en bouwelementen (zoals ramen en deuren) aanbieden waarmee kinderen hun eigen ideeën kunnen uitwerken. Ze noemen deze pakketten zelfs "creatieve bouwsets die fantasie de vrije loop laten en creativiteit en fantasie stimuleren" (LEGO® Classic product website, 2016). In dit hoofdstuk stellen we twee soorten speltypes voor die horen bij deze voorbeelden, namelijk "replicating" en "originating" spelgedrag.

Replicerend speelgedrag is het gedrag dat kinderen stellen wanneer ze bestaande modellen, instructies en voorbeelden gebruiken om te spelen. Als kinderen originating gedrag vertonen, gaan ze daarentegen hun eigen fantasie gebruiken en zonder regels, instructies en modellen spelen. We onderzoeken in dit hoofdstuk ook welke elementen bepalen waarom kinderen zouden kiezen voor beide speltypes. Originating spelgedrag komt voornamelijk voor wanneer kinderen hun verbeelding willen gebruiken, zich willen aanpassen aan het speelgedrag van anderen, omdat repliceren een saai imago heeft of als ze te weinig middelen hebben (bijvoorbeeld om een model volledig te maken). We zien ook dat er een bepaalde ervaring nodig is om aan originating te doen en dat repliceren voornamelijk voorkomt wanneer kinderen die ervaring nog niet hebben en een speelgedrag nog aan het aanleren zijn. Repliceren doen kinderen dan weer vooral wanneer ze iets willen leren van anderen, wanneer ze geen inspiratie hebben en omdat het eindresultaat soms beter is. We tonen ook aan dat sommige van deze elementen vooral voorkomen in de thuissituatie en anderen dan weer op school, wat zou kunnen verklaren waarom kinderen op school ook meer originating spelen en thuis meer replicating. Tenslotte wordt ook een extra studie voorgesteld die aantoont dat de voorkeur van kinderen voor een bepaald speltype ook gerelateerd is aan het kiezen van spelletjes die geadverteerd worden met een slogan die past bij hun geprefereerde speltype.

In het tweede deel van dit doctoraat wordt ingegaan op blootstelling aan reclame als één van de contactpunten van kinderen met consumptie. Kinderen worden dagelijks blootgesteld aan reclame (er wordt geschat dat dit oploopt tot het zien van 40.000 reclamespots per jaar (Wilcox et al., 2004)). Doordat kinderen nog vele stappen te zetten hebben om een volledig geïnformeerde consument te worden, kunnen deze stimuli ook een belangrijke impact hebben op hen (Buijzen & Valkenburg, 2003; Opree, Buijzen, & Valkenburg, 2012). Eén van de technieken die marketeers bij reclame naar kinderen vaak gebruiken zijn geïdealiseerde beelden, zoals aantrekkelijke modellen. Aantrekkelijke

modellen worden door marketeers gebruikt vanuit het "what is beautiful is good"- principe, dat ervan uitgaat dat aantrekkelijke personen ook andere positieve eigenschappen bezitten – wat dan weer kan overslaan naar de producten die het model adverteert (Debevec, Madden, & Kernan, 1986). Het vierde hoofdstuk onderzoekt daarom de invloed van het gebruik van aantrekkelijke en minder aantrekkelijke leeftijdsgenoten als modellen in advertenties naar kinderen van 8 tot 13 jaar. Het vijfde hoofdstuk onderzoekt dit effect voor kinderen van 6 en 7 jaar. We focussen voornamelijk op deze leeftijdsgroepen omdat deze ook samenvallen met enkele belangrijke fases in de ontwikkeling van kinderen.

We tonen aan dat kinderen van 8 tot 13 jaar ook positieve eigenschappen toe-eigenen aan aantrekkelijke maar niet geïdealiseerde modellen, wat het "what is beautiful is good"-stereotype bevestigt. Zo vinden ze aantrekkelijke leeftijdsgenoten bijvoorbeeld ook lief, gelukkig, vriendelijk, populair etc. Bij kinderen van 6 en 7 en 8 en 9 heeft deze techniek ook bedoelde reclame-effecten. Zij hebben een betere attitude voor reclame waarbij leeftijdsgenoten die ze zelf aantrekkelijker vinden als model fungeren. De kinderen van 8 en 9 jaar zouden het geadverteerde product in dat geval ook liever aankopen. Voor kinderen van 12 en 13 jaar vinden we geen effectiviteit van deze reclamevorm, wat misschien ook aantoont dat deze techniek niet altijd werkt – mogelijks omdat zij al in een verdere fase van consumentenontwikkeling zijn en bijvoorbeeld eerder opkijken naar nog verder geïdealiseerde modellen (zoals beroemdheden). Vooral jongens van 8 en 9 jaar houden een negatieve zelfwaardering over aan het zien van aantrekkelijke modellen – dit is mogelijks het geval omdat jongens net diegenen zijn die zich gaan vergelijken met leeftijdsgenoten (in plaats van bijvoorbeeld beroemdheden) en het net op die leeftijd is dat kinderen vergelijkingen met anderen gaan gebruiken om hun eigen zelfbeeld te vormen.

Samenvattend toont dit doctoraat aan dat er in het leven van kinderen verschillende activiteiten zijn die ertoe leiden dat zij dagelijks in contact komen met consumeren, bijvoorbeeld door te spelen of door naar reclame te kijken. Verder kunnen deze activiteiten leiden tot consumentengedragingen (zoals betere attitudes voor geadverteerde producten, het vervat raken van materialistische waarden in speelgedrag, het verkiezen van producten die aanleunen bij geprefereerde speltypes etc.), maar moeten we ons er ook van bewust zijn dat ze een impact kunnen hebben op hoe kinderen bijvoorbeeld hun eigen zelfwaarde gaan inschatten of op de manier waarop kinderen voldoening en motivatie verkrijgen.

ENGLISH SUMMARY

Playing, watching television, reading books, eating, learning … in practically all of the activities that children engage in daily they can come into contact with elements of consumer culture. They watch television and see commercials, they play with toys and make certain decisions based on the ads they previously saw or play in a way that was proposed by the toy producers. Children are mini-consumers, but they are different consumers than adults are. Children are only in the beginning stage of consumer socialization (John, 1999), and are only starting to learn about how this process works. This can make them especially vulnerable to marketing efforts and can also bring about other reactions to marketing stimuli (Buijzen & Valkenburg, 2003). This dissertation focuses on two activities that are important contact points for learning and expressing consumer values, namely playing (which can be seen as a usage activity within consumer behavior, since children use toys and games as objects to play with) and watching advertisements (which can be seen as an activity with the goal of stimulating children to desire and acquire the advertised products).

The first part of this dissertation will specifically examine children's play behavior. Play can be seen as an activity that children engage in on a frequent basis and in which elements of the consumer process linger (Ward, 1974). For example, the products and toys children so often play with are branded, they are put in the market by toy producers and were advertised. They are also somehow acquired, for example as a gift from parents, borrowed from friends, shared with brothers and sisters or bought with children's own pocket money. Play also entails making choices that can be related to consumption: how will children play and what determines their play goals and play choices?

The second chapter will therefore explore how play can be seen as a consumer activity on which general materialistic values of a child might have an impact. Despite the importance of play in children's lives (Barnett, 1984) and despite today's concern about our increasing materialistic society, the relation between materialism and play remains underexplored in consumer research. Consumer research also focuses less often on types of behavior, such as play, that deviate from typical purchase or acquisition behavior (Pham, 2013). It is therefore important to examine to what extent materialism is related to play and to the motives children have for playing. Can there for example be material goals involved when a child chooses to make a painting just to be able to see the finished result and being able to hang it on the wall?

The chapter confirms this hypothesis and shows that on the one hand, children can play because they get enjoyment from the process of the game, we call them process oriented, and on the other hand, children can play because they get enjoyment from the outcome of the game, we call them outcome oriented. Especially outcome oriented play reasons are related to materialistic values. We also show that both orientations can be valuable in terms of reaching intrinsic motivation (such as interest and enjoyment). Children who play because of the process as well as children who play because of the outcome of a game can get intrinsic motivation from their play orientation. This also means that materialism can indirectly lead to intrinsic motivation, since it is related to outcome-orientation and children are intrinsically motivated by this play orientation. One might wonder what happens to motivation when the end-result is there, but is not perfect. In real life, perfect outcomes are after all not always achievable. Imperfect results occur on a frequent basis, for example when a puzzle cannot be finished because there are pieces of the puzzle missing. We show that materialistic children are intrinsically motivated by either type of outcome (perfect or imperfect), which reflects their outcome-proneness (no matter what). On the other hand, children who are less materialistic seem to be opposed to reaching an outcome: they are even more intrinsically motivated when there is an imperfect play outcome, possibly because the game is not completely finished then. These findings show that materialism -and even an aversion for materialistic values- can be comprised in the way in which children are intrinsically motivated for an everyday activity such as play.

The third chapter examines the way in which children play. If one has a look at the toy market, differences are noticeable in the way in which some toys and games are presented. Lego for example puts toys on the market in the form of building boxes that include detailed plans and descriptions of how children can make a beauty salon, space-ship, adventure tree house, fire station and even a “heartlake cupcake café”, but they also make brick boxes that consist of several unsorted bricks and call them their “creative building sets, that will encourage open-ended building play, and inspire any imagination and creativity” (LEGO® Classic product website, 2016). This chapter develops a typology of two types of play behavior that reflect these examples, namely replicating and originating play.

Replicating play is play in which children use given models, rules, guidelines and examples to reach an intended result. In originating play, children create something from the mind, think more freely about how they will play, are less restricted by given rules and

models and play without rules, instructions, tutorials, guidelines and models. We also examine which elements determine why children prefer replicating or originating play. Originating behavior is chosen when children want to use their imagination, or want to adapt themselves to others by following their type of play, when they believe replicating has a negative, "boring" or "dull" perception and when they feel they have a lack of resources (for example to completely make a model). We also find that a certain level of experience is needed to originate, while replicating is especially prevalent when children do not have this experience yet or are still learning this play type. Replicating play is engaged in when children want to learn from others, when children have no inspiration and creativity, and because the end result is better. Interestingly, we show that some of these characteristics are specifically present in the home situation and others are specifically present at school, which might explain why children prefer originating play at school and replicating play at home. We also present an additional study that shows that children who are inclined to generally prefer one of both dimensions, might also be inclined to make toy and game choices for advertised products that have slogans that relate to the child's preferred play style.

In the second part of this dissertation we examine advertising exposure as one of children's touchpoints with consuming. Children are exposed to advertising stimuli on a daily basis (it is estimated that children see over 40.000 television commercials a year (Wilcox et al., 2004). These stimuli are therefore prominent in children's lives and due to children's underdeveloped consumer skills, they can have an important impact on them (Buijzen & Valkenburg, 2003; Opree et al., 2012). One specific type of advertising that children are often exposed to is idealization and amplification of images, such as for example by the use of attractive endorsers. Attractive models are often used by marketers due to the "what is beautiful is good"- principle, that states that attractive people also possess other positive characteristics – which can transfer to the products that the endorser is advertising for (Debevec et al., 1986). The fourth chapter examines the effects of using attractive peer models in advertising for 8- to 9- and 12- to 13-year-old children and the fifth chapter does so for children of 6 to 7 years old. We mainly focus on these age groups because they converge with some important phases in the development of children.

We first of all show that the children of 8 to 9 and 12 to 13 years old also attribute a range of positive characteristics to attractive peer models, which confirms the "what is beautiful is good" stereotype. Children of this age think attractive models are also kind,

happy, friendly, popular etc. For children aged 6 to 7 and 8 to 9, this technique also has some intended effects. Children of this age have a better attitude towards advertisements with models they perceive to be more attractive and the children of 8 to 9 years also have higher purchase intentions for the advertised product. This effect is not found for children of 12 to 13 years, which demonstrates that moderately attractive peer endorsers do not always impact ad effectiveness for children of that age - possibly because they are already in a further phase of consumer development and for example because their comparison targets are rather idealized models (such as celebrity endorsers). We also see that especially young boys of 8 to 9 years old experience a negative effect of exposure to attractive models on their self-worth - possibly because they are just the ones most likely to compare themselves with peer models and also because it is specifically at that age that children will use comparisons with others to shape their own self-image.

In summary we can say that this dissertation shows that there are several activities in the lives of children that bring them into contact with consumption on a daily basis, for example by playing or watching advertising. These activities can have effects that lead to consumer behavior (such as improved attitudes for advertised products, materialistic values that become embedded in play, choosing products that relate to preferred game types, etc.), but we must also be aware of the fact that certain elements of these activities may have an impact on how children assess their own self-worth, or how they become motivated.

CHAPTER I
INTRODUCTION

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INTRODUCTION

Children grow up in a society where consumption flourishes and where they are more and more exposed to consumer values, actions and behaviors (Schor, 2004; Wilcox et al., 2004). Think of typical day in children's lives, for example.

They wake up, eat breakfast while being greeted by Tony the Tiger, brush their teeth with a "Star Wars" or "K3" toothbrush and watch some television in which commercials of Barbie dolls or Lego pass by or watch movie clips starring handsome princes and princesses. At school, children play with the class materials, some children dive into boxes of unsorted Lego, some play with a jigsaw puzzle of Mickey Mouse and others decide to play with iron-on beads. The bell rings and one child might beg the teacher to take his/her iron-on-bead work (with a pre-modeled example of Elsa, the princess from the Disney movie "Frozen") home to iron it, because why else would you put so much effort in it? Children might also go grocery shopping and insist that they can hand in a coupon to the cashier. At the end of their day, they might go to sleep in a pajama of their idol.

In several steps of a child's day, aspects linger that get them into contact with consuming. Some routines also teach children something about how the consumer world looks like. They see brands, endorsers, play with toys, choose certain games, learn about stereotypes through media and even display materialistic motives when they decide to put results before pleasure when they play.

Although children constitute the youngest group of consumers and remain the most vulnerable ones amongst us for marketing efforts, strangely enough, the extent to which our consumer society affects children's attitudes and daily behavior remains an underexplored issue. Some researchers argue that children's consumer behavior has been somewhat neglected in research (Cook, 2008; Valkenburg & Cantor, 2001) and that since the 80's, the focus on children in consumer behavior has diminished (Moore, 2004; Nairn & Fine, 2008). Cook (2008) even reasons that most conceptualizations in marketing literature focus on adults and leave out specifications of children.

It is, however, important to explore children's encounters with consuming, since they are in many ways different consumers than adults are. Depending on their age and development, people have different cognitive capacities and social understandings, so they are considered to behave differently in the market place. Children are only in the beginning stage of these developments (John, 1999). Children also have limited spending power, as they often can only rely on pocket money and some savings. Likewise, children's consumer activities are centered on different actions than the activities of adults. For example, as compared to adults, children are especially likely to engage in usage activities (such as playing with objects, consuming objects, engaging in experiences) rather than purchase activities and will probably focus more on requesting products and forming attitudes about them and less on actual buying behavior. Since consumer research specifically focuses on these acquisition activities (Pham, 2013), we also know little about the typical consumer activities children do engage in, which are mostly activities such as using products, requesting and desiring them. Due to these differences, it is important to explore how children consume. This dissertation focuses on two ways in which children come into contact with consuming, namely through advertising and by playing with objects.

1. Why consuming is different for children

In this part, we focus on some of the reasons why children are different consumers than adults are. First, children are only starting to explore the world as a consumer and are only in the beginning phases of consumer socialization. This makes them especially vulnerable to marketing efforts. Second, even though children have increasingly become able to make own purchase decisions, children are still in a different stage of life, so they cannot yet provide for themselves and are therefore often reliant on parental decision making. Third, for children, "consuming" can comprise different activities than it does for adults and different components of what is defined as consuming might be prominent.

1.1. Children are only in first stages of consumer socialization

From the moment children are taken on their first shopping trip, to the moment they push their own shopping cart, children are enrolled in a course of activities that shape them as a consumer (John, 1999). More active consumer roles are also engaged in quite early. Valkenburg and Janssen (1999) showed for example that a fifth of the five-year old and half of the eight-year old interviewed children in their study had already made at least one

independent store visit without a parent (for example to a grocery store). Children consequently start very young with their exploration of consumer activities and come into contact with a wide range of different possible consumer touchpoints. Childhood is therefore crucial in the development of consumption patterns, attitudes and skills.

Already at an early age, children develop consumer knowledge, practice skills, and create attitudes about products, brands, advertising, shopping and purchases and learn decision-making strategies (Friedrich & Stein, 1975; John, 1999; Robertson, 1979; Ward, 1974). The process in which children learn and practice this and are enforced in their role as consumers is called the consumer socialization process (John, 1997). It is defined by Ward (1974, p. 2) as "the process by which young people acquire skills, knowledge, and attitudes relevant to their functioning as consumers in the marketplace". It is a process that also entails activities children engage in, which bring them into contact with advertising, media and brands and thus relates to their development as a consumer. Another component of consumer socialization is learning values, motives and goals that are transmitted through consuming. Some of these values are for example materialistic ones (John, 1999).

Peers, family and media have often been pointed out as main contributors to children's process of consumer socialization (Moschis & Churchill, 1978). For example, in their family relations, children learn certain ways in which they can behave as a consumer. They get pocket money for instance, or learn about what products to buy, they learn to do chores in exchange for valued benefits or see their parents making product evaluations based on certain cues (for example "value-for-money") (John, 1999; Ward, Wackman, & Wartella, 1977). Family members are also important in teaching children to understand media and advertising and to help them in understanding the downsides of consuming (the persuasive intent, money issues etc.) (Moschis & Churchill, 1978). Another consumer socialization factor is media and advertising. Children are exposed to advertising from the moment they are born and also learn certain skills and attitudes by being exposed to media (John, 1999; Martin & Gentry, 1997; Valkenburg & Cantor, 2001).

Children are said to develop consumer socialization skills very early on in life, and recently, children have even been socialized as a consumer earlier on than previous generations had (Ekström, 2007). Consumer socialization is, however, not a process that ends in adulthood. The consumer world is constantly changing, developments continuously emerge and children and adults are constantly exposed to new roles and new situations

(Marshall, 2010). Mostly, the consumer socialization that takes place in childhood is referred to as primary socialization, which comprises only the very first steps into becoming a consumer, while secondary socialization is the subsequent socialization that usually takes place in adulthood (Ekström, 2006; Marshall, 2010; Watne, Lobo, & Brennan, 2011). Consumer socialization is therefore seen as a life-long process (Ekström, 2007; Marshall, 2010). Additionally, consumer socialization is also not a process that is similarly reflected in each domain. Children can for example be very knowledgeable about one domain, but can be less literate and have a limited knowledge about other consumer domains or processes. Consumer knowledge and socialization is therefore dependent upon the specific domain and the specific consumer role (Marshall, 2010).

Although adults can also still learn important aspects about the consumer process, and are therefore also still developing consumer knowledge about some events and objects, children are more often the ones that make the largest advances in consumer socialization (Marshall, 2010). Children still need to start developing each and every element and are also the ones that have less cognitive capacities to deal with all the information they gather in the socialization process (Marshall, 2010). As stated by Moses and Baldwin (2005), there is a large difference between being having consumer knowledge (and thus being capable of processing advertising) and actually using and employing this knowledge. While adults are often seen as being capable of being competent consumers as they have acquired all of the necessary developmental skills, children are less competent to actually have and use all of the necessary skills (Moses & Baldwin, 2005). As children mature, they learn to organize, store, clarify and deal with information and knowledge they have gathered (Moore & Lutz, 2000). It is therefore said that consumer socialization is assumed to be stronger and more subjective to changes during childhood (Marshall, 2010).

Children are still learning and are going through a range of important cognitive and social developments (John, 1999), so they also lack certain consumer skills and consequently, the consumer socialization process is largely connected to their development. These biological limitations are also less important for secondary socialization (the kind of socialization that develops after childhood) (Marshall, 2010). For example, since children only learn to read and write at the age of 6 to 7 years old, they are also practically unable to read product labels and to process text in advertisements. Also after they do start to read and

write, they still do so less fluently than adults (Moore & Lutz, 2000). As a result, children are most often the ones regarded as being least socialized as a consumer (Ward, 1974).

Examples of children's less developed consumer skills are reflected in their lowered ability to understand advertising intentions. For example, it is only at about the age of 4 to 5 years old that children are beginning to differentiate between media content and advertising (Valkenburg & Cantor, 2001; Wilcox et al., 2004). At the age of 6 to 7 years old this skill is generally developed, but at this age children are still generally unable to understand the persuasive intent of advertising (Valkenburg & Cantor, 2001; Wilcox et al., 2004). They don't always understand advertising's persuasive intent because at that age, children use limited information during decision-making (John, 1999) and are less able to discriminate relevant from irrelevant information (Davidson, 1991; John, 1999; Wilcox et al., 2004).

It is not until they reach the age of 12 to 13 years that governments, public policy makers and self-regulating advertising bodies see it as "fair" to advertise to children (Nairn, 2014). The main reason for this is that children above 12 years old have generally adopted the cognitive capacities that enable them to critically and skeptically process advertising (John, 1999; Nairn, 2014), which allows them to defend themselves more against it. They are believed to think about advertising in a reflective way, can make decisions based on multiple dimensions and can relate to social aspects about consuming, such as seeing the need to develop a consumer identity. Mostly, they are accordingly seen as more able to act as a fully informed consumers in the market. Nairn and Fine (2008) claim that there is less agreement in literature about children's capabilities within this particular stage. In a study comparing the cognitive ad defenses of children with adults for example, Rozendaal, Buijzen, and Valkenburg (2010) found that children of 9 to 10 years old had reached similar levels of advertising recognition as adults. However, children of 12 years old had still not acquired an adult-like understanding of advertising's selling and persuasive intent.

Given the current fast evolution of the media landscape, children are also more and more exposed to new forms of advertising, such as advergames, product placements in video games etc. (Mallinckrodt & Mizerski, 2007). This also brings new challenges for understanding children's process of consumer socialization, because children appear to be highly influenced by these new media forms. Mallinckrodt and Mizerski (2007) report that for advergames, a child's knowledge of the source of the communication also seems to increase with the child's age. Effects for these types of advertising may even highlight

children's less developed advertising knowledge even more than is the case for traditional advertising. Mallinckrodt and Mizerski (2007) for example claim that less children actually correctly identify a game's source compared with other studies that look at television ads (such as for example Butter, Popovich, Stackhouse, & Garner, 1981).

1.2. Children have less spending power

Children are not only an interesting primary market, because they buy products for themselves, but children also request products to their parents, making them a secondary market and an important future market (McNeal, 1992; Preston, 2004; Valkenburg & Cantor, 2001). The primary market in which children have their own purchase power and buy things for themselves with their own pocket money has actually been increasing over the years (Dotson & Hyatt, 2005; McNeal, 1992).

Although children's spending power is increasing in current society, we can hardly claim that children have access to equal amounts of money as adolescents of adults do and they are likewise not likely to have similar purchase power (Nicholls & Cullen, 2004; Rajecki, 1993). In a study we performed in 2012, 57% of the interviewed children who were between 8 and 12 years old received pocket money. For the children who got pocket money, we calculated a monthly average and saw that children on average got 11 euro per month (*Range:* 1-50 euro). The majority of the money that is spent on products for children comes from secondary purchases (and thus from parents or other caretakers who buy children stuff) (Nicholls & Cullen, 2004; Rajecki, 1993). Children therefore differ from adults to the extent that in the consumer process, they will most likely not be the primary buyers of the products they consume but rather influencers that stimulate others to buy products for them, for example by pestering (McNeal, 1992; Nicholls & Cullen, 2004).

1.3. Children's activities in the consumer process are different

Another reason why children can be considered as special and unique consumers is the fact that for them, the definition and conceptualization of consuming entails different components and stresses other activities than it does for adults. It is generally agreed that the consumer processes consists of desiring, acquiring, using/consuming and disposing of consumer objects (which can be tangible products, but can also be activities, time, events, experiences etc.) (Pham, 2013) (Figure 1). These processes are centered around activities with the intent to

stimulate desire for objects (for example stimulating product desire through advertising, wanting goods, having a certain need for a product), purchase or acquisition activities (acquiring products or services, making a decision), usage and actual consumption activities (place, moment and way in which the products and services are consumed and used) and disposal activities (the way in which products and services are disposed of) (Jacoby, 1978; Kardes, Cronley, & Cline, 2014; Pham, 2013).

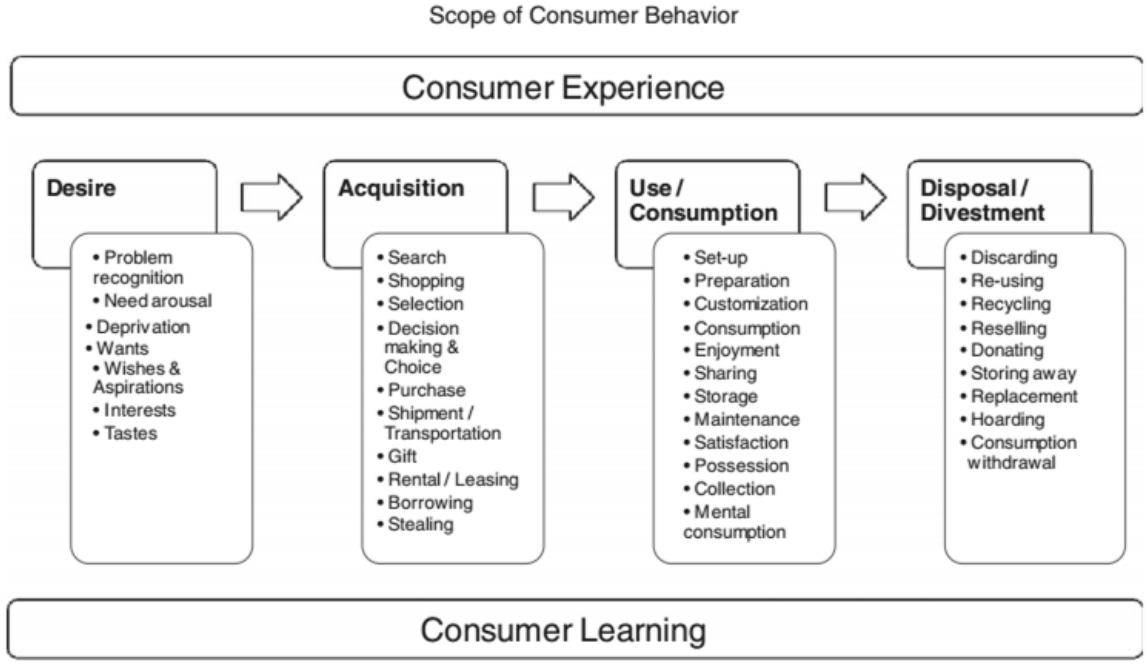

Figure 1. Steps in the consumer process. Adapted from Pham (2013). The seven sins of consumer psychology. Journal of Consumer Psychology, 23(4), 411-423.

Some of these activities in the consumer process are probably less relevant for children. In children's lives, disposal activities will for example probably occur less frequent. Likewise, purchase activities can be different for children than for adults. As we argued earlier on, although children are increasingly becoming able to buy products for themselves (for example with their pocket money), they often need caretakers to provide funding for these purchases (Rajecki, 1993). This makes them a profitable secondary market, in which they have control over the purchases of parents. Children's main activity is therefore not necessarily purchasing products, but rather asking for them and making their desires clear.

Children also often engage in usage activities, such as handling products by consuming them (such as food) and using them (such as toys). Children tend to use a variety of products that are not 'owned' by themselves, or not even bought specifically for them, but are rather

shared or borrowed (Belk, 2010). Take, for instance, the house they live in, the snacks they consume, the toys they play with when they are with friends or the materials they make use of at school. These kinds of activities have received little attention, since consumer behavior and consumer psychology research is often related to market exchanges and possession of products (Belk, 2010)(Pham, 2013). When examining children's consumer behavior, however, actual market exchanges seldom occur, although children do consume, request and use consumer objects and activities.

Another classification of consuming was proposed by Holt (1995), who identifies four metaphors used in research to define consuming. "*Consuming as experience*" is especially focused on the emotional and psychological states people undergo when they consume. The "*consuming as integration*" metaphor describes how consumers integrate consumption objects into the self and use them as elements of their identity. "*Consuming as classification*" defines consuming as a way to classify consumers. By using the meanings ascribed to an object, people for example classify themselves in a category with others who also use this particular product and use similar meanings for this object. Finally, the "*consuming as play*" metaphor shows how people consume objects and experiences in a play setting.

In this classification, we can also see differences in children's and adult's consumer behavior. Although children are learning each and every one of these metaphors in their consumer socialization process, the second and third metaphor (consuming as integration and consuming as classification) are less prominent in children's lives. Both see consuming as instrumental and focus on symbolic meaning of consumption. Seeing consuming as an integration of the self with objects, for example, would imply that the consumer is capable of forming a solid consumer identity for himself. This is, however, mostly only prominent after people are about 12 years old, since that is the age at which they are usually beginning to develop a consumer identity for themselves (John, 1999). The metaphor "consuming as classification" is likewise also perhaps less relevant for children, since this implies that people first need to know how objects relate to the self before they can begin to understand that objects are capable of classifying others. For example, the formation of consumer constellations (the process in which people relate consumer objects to social roles and to inferences about other people's identity) increases with age (Chaplin & Lowrey, 2010) and older children are thus using products and brands to form constellations more than younger children do. This also makes classifications less readily achievable for younger children.

The first and fourth metaphor (consuming as experience and consuming as play) are particularly prominent in children's lives. Play, for example, is a particular experience that especially children exhibit (Larson & Verma, 1999). As people grow older, the time they spend on unstructured play diminishes (Larson & Verma, 1999). Play is therefore an activity that is especially relevant for children. Holt (1995) sees play as a consumer activity because consuming not only involves acquisition of objects, but can also be seen as the usage of recourses. The objects that are played with are the materials that provide the possibility of play. This is also linked to the previously described stages of consuming, since children use consumer objects while playing, which recognizes play as a product usage activity.

2. Children's touchpoints with consuming

The previous section showed that children are different consumers than adults are. They are for example more familiar with consumer processes in which a desire for products is established and in the usage of products. This dissertation will elaborate on two of children's most basis daily encounters with consuming, namely playing on the one hand (which can be seen as a usage activity) and advertising exposure on the other hand (which can instigate the desire for products).

2.1. Play behavior

A first part of this dissertation (chapter II and III) will zoom in on one particular usage activity children engage in as consumers, namely play behavior. Children play with products and toys they have somehow acquired (either by buying, requesting or sharing them). This makes play a specific form of consuming that is particularly prominent for children. This section discusses how consumption relates to play behavior and how play will be defined in this dissertation.

2.1.1. Play as a consumer activity

Consuming is generally done with a focus on a certain object. At a certain moment in time, researchers began to show interest in the idea that the object of consuming can include more than just products and tangible goods, but also services, time and even ideas (Jacoby, 1978) or events (Holbrook, 1987). Also, in consumer behavior literature, there is more and more focus on experiences that supplement the consumption of this object. Already in 1984, Holbrook, Chestnut, Oliva, and Greenleaf (1984), for example, saw that experiences formed

an increasingly large part of consumption. Consumer experiences and activities come in many forms, of which one is defined as "intrinsically motivated consumer behavior". This behavior consists of a range of consumer activities that contain certain similar characteristics, such as the willingness to spend time on them, the fact that they are enjoyed because of the sake of the activity (Deci, 1975), or the fact that the activity engaged in is rewarding and engenders positive feelings (Deci, 1975). Examples of intrinsically motivated consumer behaviors are for example hobbies, leisure activities, games, sports etc. Some of these activities have been discussed previously in consumer behavior literature, such as for example river rafting (Arnould & Price, 1993), going to flea markets (Sherry, 1990), baseball-games (Holt, 1995) etc. Children's consumer activities are less often discussed.

One type of activity in which children often show elements of the consumer process is for example play behavior. Although some would argue that play is by no means an activity that can be related to consumption, previous research suggest that it can. Play can for example be seen as a usage activity in the consumer process. Holbrook et al. (1984) proposed the term "playful consumption", in which they defined playful consumption as part of "a broad class of intrinsically motivated consumer behavior that includes leisure activities, hobbies etc.". (Holbrook et al., 1984, p. 728). They argued that consumer behavior is more than merely "buying" products, but can also entail "consuming" them, in the form of play.

The previously described classification of Holt (1995) identified "consuming as play" as one of the metaphors used to define consuming. This metaphor expresses how people consume objects and experiences in a play setting and points towards the idea that play can be seen as a consumer activity because it not only involves acquisition of objects, but also the usage of recourses. Although playing is in essence an experience and can therefore often occur without any tangible objects (for example when children pretend play, when they play imaginative games etc.), playing can often incorporate some kind of tangible object and is a consumer experience in which children consume and use toys and products. The link between play and consuming is thus sometimes dependent upon the physical ways in which toys are seen as consumption objects, but play can also be related to intangible processes related to consumption, such as for example when a child re-enacts a shopping trip he or she went to.

Furthermore, toys can be objects that transfer symbolic meaning to its users. For children, a doll or teddy bear for example is not always merely a product that he or she plays with, it can also be a symbol of trust, warmth and comfort. Like adults for example value

some consumer objects in another way than other products, children can also attribute symbolism to toys. Some claim that toys even have an important role in families (Sutton-Smith & Pellegrini, 1995). Parents can for example use them as a way to reward or punish their children (Richins & Chaplin, 2015). By using this parenting method, which Richins and Chaplin (2015) call "material parenting", toys can signal a loving connection between a parent and a child. Through this mechanism, children learn that love is connected to material possessions and that love can be "bought" or "earned", an impression that is at best materialistic and even translates into materialistic values later on in life.

Playing also shows similarities with elements of consumer socialization, the process in which children acquire and learn the skills and attitudes needed to perform consumer actions (John, 1999; Ward, 1974) and enforces children in their role as consumers (John, 1997). Playing includes interactions with toys, selecting between play activities and different products (i.e. games), evaluating these games after playing and deciding to keep on playing the same game or choosing another game. These goals and motives are not necessarily centered on the physical toy as an object, but are rather related to intangible processes and goal pursuits that can also be related to consuming.

2.1.2. Definition and consequences of play

Since this dissertation will explore play as a consumer activity, it is important to understand the concept of play. Play is seen as a concept that is difficult to define (Eberle, 2014), ambiguous and has been conceptualized in different ways throughout history. This is not surprising, given the fact that play behavior can range from activities such as dressing up, playing with Lego, playing hide-and-seek to crafting and playing tag or Monopoly. Play also consists of different underlying phenomena, that result in different kinds of play experiences (Johnson, Eberle, Henricks, & Kuschner, 2015). One of the best ways to define play is therefore that it is in essence undefinable and consists of multiple definitions. Research has ascribed a diverse range of characteristics to play behavior, and has also provided criticism on most of the proposed characteristics. The following section presents some of the most prominently mentioned characteristics of play by means of the classification of Burghardt (2005), who distilled five main criteria that human and animal behavior must have before it can be classified as play.

First, play is said to have a ***limited immediate function*** (Burghardt, 2005) and is often seen as not functional or not of immediate use. It is supposed to be performed for its own sake and seemingly engaged in without any purpose (Pellegrini & Smith, 1998). Nevertheless, this belief has received a lot of criticism, for example because many authors claim that play must be useful or -evolutionary speaking- it wouldn't have survived through time. Eberle (2014) for instance contributes to this criticism by stating that play can have learning goals or can be preparatory for future behavior which makes it useful, but not necessarily immediately. Playing is for example often associated with children's development in physical, cognitive, as well as social and emotional domains (Barnett, 2013). The examination of play in diverse academic disciplines, such as neuroscience, ethnography, psychology and pediatrics (Lester & Russell, 2008), suggest interconnectedness between play and specific aspects of development in for example enculturation, learning, brain development, emotion regulation, socialization etc. (Lester & Russell, 2008; Milteer & Ginsburg, 2012). Moreover, if play would be downright purposeless, this would also mean that play cannot exist of efforts that results in the production of a certain output (Anchor, 1978; Caillois, 1955), because the output might be the purpose of the game. This would exclude for example the creation of paint-by-number kits from being perceived as play.

Second, play is often described as ***structural or temporal different*** from other behavior (Burghardt, 2005), which makes it extra-ordinary, special and set apart from other more mainstream and "serious" activities (Johnson et al., 2015). Children can for example play games in which they act "weird", speak nonsense, use exaggerated behavior, etc. (Yarnal, Chick, & Kerstetter, 2008). Rubin, Fein, and Vandenberg (1983) for example call play ***nonliteral*** in the way that it should be detached from reality and should incorporate experimentation.

Third, Burghardt (2005) also defines animal and human play as ***repetitive***. It can often be repeatedly performed. Some authors also describe this characteristic by arguing that play is an activity where ***rules*** are important (Huizinga, 1955). They see rules as important not just for organizing games and making them fair, but because they keep games interesting and keep games going.

Fourth, play often occurs in a ***relaxed field*** according to Burghardt (2005), free from stress and agitation and also not influenced by drives such as hunger, fear etc.

Lastly, one characteristic that scholars do usually agree upon is that at its most elementary definition, play always assures that there is an element of fun, pleasure, intrinsic motivation or enjoyment (Barnett, 2013; Eberle, 2014; Garvey, 1990) or what Burghardt (2005) calls the ***endogenous function*** of play. To a similar extent, some play is said to be chosen freely (Rubin et al., 1983) and players should do it ***voluntary***, without feeling forced or obligated to perform the activity (Johnson et al., 2015).

Besides these characteristics, Rubin et al. (1983) also add that play should be ***actively*** engaged in (which means the child should not be passive during the activity).

Several of the defining characteristics of play also consist of elements that can translate back to seeing play as a consumer activity. For example, play is characterized as repetitive and rule based and some of the toys that are currently put on the market use this element in their toy designs (such as paint-by-numbers-kits). It is however also defined as nonliteral, which would relate to more creative types of play (such as painting without examples). Later on in this dissertation, we will explore several of these characteristics and show how and why they can provide insights in the link between play and consuming. All of our chapters and studies however focus on some of the play characteristics that were described before. The definition of play that will therefore be proposed in this dissertations is as follows:

Play is described as an intrinsically motivated voluntarily performed activity, in which people actively engage and which can express repetitive, rule based and reproductive as well as creative and imaginative actions and can incorporate actions with and without tangible objects and products.

2.2. Advertising exposure

A second part of this dissertation (chapter IV and V) will explore advertising exposure, which can be seen as one particular activity that children, be it actively or passively, engage in when they socialize as a consumer. By being exposed to media and advertising as much as they are, children become more and more aware of consumer culture (John, 1999). Also, advertising exposure leads to desire and acquisition activities such as product preferences and product requests and can also be an instigator of how children will make use of products later on (Connell, Brucks, & Nielsen, 2014).

2.2.1. Prominence of advertising exposure

Young children are exposed to ever increasing media and advertising (Moses & Baldwin, 2005; Nairn & Fine, 2008). In the USA alone, children between 8 and 18 years old watch about four and a half hours of television each day (Gantz, Schwartz, Angelini, & Rideout, 2007). For preschoolers, television watching times average around 3.78 hours per day (Tandon, Zhou, & Christakis, 2012). Other studies report that children of almost five months old already show interest in television programs that are specifically targeted towards them (Valkenburg & Cantor, 2001) (such as for example Bumba, The Teletubbies etc.). Other media forms are also more and more prominent. American children between 8 and 18 years old report playing videogames for approximately 13 hours a week (Gentile, 2009) and one out of two Belgian children in elementary school visit the internet on a daily basis (d'Haenens & Vandoninck, 2012).

Since children are exposed to media as frequently as they are, they are also exposed to advertising stimuli on a daily basis. These stimuli are therefore prominent in children's lives. It is estimated that children see over 40.000 television commercials a year (Wilcox et al., 2004). Gantz et al. (2007) report that American children between two and seven years old approximately see 17 minutes of advertising a day (or 38 ads), while children between 8 and 12 years old daily see 37 minutes of advertising (or 83 ads). Children's programs on Dutch commercial networks can contain 25 child-targeted commercials per hour (Valkenburg & Cantor, 2000). A whole universe of new advertising techniques to children also emerges. There are thousands of website that use advertising targeted at children (Wilcox et al., 2004). Additionally, children are subjected to a lot of covert and stealth advertising (Nairn & Fine, 2008), such as for example product placement in videogames, movies, music videos and songs. They are also often the prime targets for advergames and celebrity endorsements (Mallinckrodt & Mizerski, 2007).

2.2.2. Consequences of advertising exposure

The previously described developmental differences have consequences for the effects of media exposure. Buijzen and Valkenburg (2003) describe two kinds of effects that advertising can have on a child: intended and unintended effects.

2.2.2.1. Intended effects of media exposure

The first and foremost goal of advertising is to stimulate purchase intentions, brand awareness, product preferences, attitudes etc. The more advertising children watch, the more they are influenced by it in their consumption choices (Bandyopadhyay, Kindra, & Sharp, 2001; Strasburger, 1993). Advertising can provoke these intended effects very early on in a child's life, since children of 3 years old already make specific product requests to their parents for products that they saw in advertising (Isler, Popper, & Ward, 1987; Robertson, 1979).

Valkenburg and Janssen (1999) claim that marketing efforts have most effects on children below the age of 8. This is due to the differences in adult's and children's level of cognitive and social development. As was mentioned earlier, for example, children below the age of 7 use limited information during decision-making (John, 1999) and are less able to discriminate relevant from irrelevant information (Davidson, 1991; John, 1999; Wilcox et al., 2004). They will therefore particularly value peripheral and visual cues. This means that they will probably be very profitable marketing targets for campaigns incorporating stimuli such as celebrity endorsers, bright colors, vivid photographic material, attractive music etc. (Hoffner & Cantor, 1985; John, 1999; Livingstone & Helsper, 2006; Moore & Lutz, 2000; Ross et al., 1984; Wilcox et al., 2004). It is clear that advertisers are aware of this, for example given the abundance of celebrity endorsers used for children's products (think of "Studio 100" with its very successful merchandise of for example "Bumba", "K3", "Maya", to name but a few).

2.2.2.2. Unintended effects of media exposure

Besides these intended effects, advertising can also generate a number of unintended effects. Research with adults shows detrimental consequences on for example greed, irrational behavior, the reinforcement of stereotypes etc. (Pollay, 1986). For children, studies have for example shown effects of exposure to food advertising on childhood obesity (Halford, Gillespie, Brown, Pontin, & Dovey, 2004) or found that exposure to cigarette advertising relates to an overestimate of children's perceptions of adult smoking prevalence (Burton et al., 2010). Buijzen and Valkenburg (2003) proposed a specific framework bundling unintended television advertising effects and focused on materialism, parent-child

conflict, and unhappiness as most prominent examples of these kinds of –often unwanted and negative- consequences.

Parent-child conflict has been seen as an unintended advertising effect because advertising exposure possibly leads to more product requests. These requests result in nagging and probing for the product and this can cause a tension between the child and the parent when the child does not get the product he or she asked for, which might again lead to conflicts (Buijzen & Valkenburg, 2003).

Second, advertising exposure has also been related to a focus on materialistic values. Although the causality between both has been a debate for many years, several researchers do agree that advertising exposure and materialism are positively related (Buijzen & Valkenburg, 2003; Churchill & Moschis, 1979; Opree, Buijzen, & Valkenburg, 2012). Exposure to advertising might generate more emphasis on materialistic and extrinsic values, since advertising focuses especially on luxurious products and services and encourages the belief that possessions are important for one's happiness (Opree et al., 2012). A higher valuation of materialistic values might on the other hand also encourage children to look for information that is related to materialistic values, such as advertisements (John, 1999).

Materialism is included as an undesired advertising effect because a higher valuation of materialistic values has in turn been associated with decreases in several aspects of well-being, such as for example self-appraisal, self-esteem, physical health and the engagement in several health risk behaviors (Dittmar, Bond, Hurst, & Kasser, 2014; Vansteenkiste, Soenens, & Duriez, 2008). Already by definition, it is clear that materialism relates to well-being, since it is defined as "the extent to which individuals engage in the construction and maintenance of the self through the acquisition and use of products, services, experiences, or relationships that are perceived to provide desirable symbolic value" (Shrum et al., 2013, p. 1180) or as the importance a person attaches to possessions and the degree to which a person sees the acquisition of goods as desirable to achieve life goals (such as happiness) (Belk, 1984, 1985; Burroughs et al., 2013; Richins & Dawson, 1992). For materialists, these life goals are often dependent on deeper unmet needs and insecurities (Burroughs et al., 2013; Richins & Dawson, 1992). Materialism therefore has a negative reputation, as materialistic people often retrieve happiness from materialistic pursuits, and relate the acquisition and use of objects to the self rather than retrieving happiness from relations with others, or from the engagement in experiences or use non-material aspects to maintain the self.

Advertising exposure has also been directly (instead of indirectly through materialism) related to feelings of unhappiness and to several dimensions of well-being in general. People see a perfect and idealized world in media and advertisements. Comparisons of this perfect world with reality might instigate feelings of inadequacy, lowered life dissatisfaction, disappointment etc. (Buijzen & Valkenburg, 2003). This idealization in advertising is present in nearly 25% of commercials (Downs & Harrison, 1985), and occurs when some form of attractiveness is present, for instance by using specifically attractive or beautiful models or representations of idealized products (Dion, Berscheid, & Walster, 1972). Children might for example become unhappy after being exposed to advertising because their expectations of advertised products are not met when the product is actually consumed (Buijzen & Valkenburg, 2003). Another example is the use of attractive advertising models. Since people have a natural bias towards attractiveness, and ascribe other positive characteristics to attractive people, the use of attractive models in advertising is successful in terms of intended marketing effects, but also causes concern about the unintended advertising effects on people's self-worth and self-perception. People might become disappointed with their self after seeing these highly attractive people (Eagly, Ashmore, Makhijani, & Longo, 1991).

Besides these three unintended effects proposed by Buijzen and Valkenburg (2003), advertising also contributes to the development of consumer values and beliefs, for example by transmitting messages that incorporate gender role stereotypes. In toy advertising, for example, gender stereotypes are still noticeable. Not only are toys often particularly sold along gendered product lines, this is often accentuated with ads containing specific gender-typed colors (e.g., pink for girls and blue for boys), products (e.g., dolls for girls and action figures and machinery for boys) (Rajecki, 1993) etc.

3. Overview of chapters

Consumers engage in several consumer activities consisting of typical categories such as desire, acquisition, usage and disposal activities. This dissertation focuses on two typical consumer activities children engage in, namely usage activities (chapters II and III: in the form of play behavior) and desire and acquisition activities (chapters IV and V: in the form of advertising exposure).

In convergence with previous literature that argues that consuming is more than merely buying products (Holbrook & Hirschman, 1982) but can also entail experiential elements, the first part of this dissertation (chapters II and III) especially focuses on play. Play can be regarded as part of the "usage activity" that consuming entails, since children rarely buy products themselves (Nicholls & Cullen, 2004; Rajecki, 1993), but do use and consume these products, for example by playing. This part examines what reasons children have to play with products (chapter II: outcome and process orientation) and how these products can be played with (chapter III: replicating and originating).

In chapter II, *"I want, so I play. How materialism affects children's outcome and process oriented play",* we will explore how play can be seen as a consumer activity in which products or objects are used, and how the reason to play can relate to general materialistic values. In the literature overview, we already argued that one characteristic of play is often criticized, namely that play is seen as purposeless (Pellegrini & Smith, 1998). This chapter also disagrees with this characteristic, since it would imply that play cannot exist of efforts that result in the production of a certain output (Anchor, 1978; Caillois, 1955), because the output might be the purpose of the game. This characteristic of play will be further examined, by arguing that children have certain play reasons, and that one of these play reasons is determined by a focus on the outcome of the play activity. This chapter therefore proposes a typology of two play types: outcome and process oriented play. The chapter elaborates on the idea that materialistic values can determine why children play and proposes that one of these play orientations, namely outcome orientation (and not process orientation), stems from materialistic values. Our hypotheses is confirmed, since study 1 finds support for the view that materialism is positively related to outcome oriented play.

We also explore another characteristic of play. We argued that the most elementary definition of play, was that it always included an element of fun, pleasure, intrinsic

motivation or enjoyment (Barnett, 2013; Eberle, 2014; Garvey, 1990). This chapter follows the reasoning of Johnson et al. (2015), who claim that although play at its basic form, promises fun, the origin of this fun might be highly individual. The chapter explores if the origin of this fun and intrinsic motivation can relate to consumer values such as materialism and examines if play reasons that relate to consumer values (such as the material interest of reaching a tangible outcome after playing a game) still result in intrinsic motivation. Study 2 shows that both outcome and process orientation are intrinsically motivated and that there is an indirect positive relation between materialism and intrinsic motivation, through outcome orientation. Study 3 further examines two specific play outcomes: a perfect and an imperfect outcome and demonstrates that when a play activity has an imperfect outcome, materialism is negatively related to intrinsic motivation. Interestingly, lowly materialistic children are more motivated when a play activity has an imperfect outcome than when it has a perfect outcome, while more materialistic children's intrinsic motivation is independent of the type of outcome (perfect or not).

Chapter III, *"Playing by the book or not? Determinants for replicating and originating play behavior"* proposes that two important developments in childhood, imitation and reproduction on the one hand and creativity and imagination on the other hand, have corresponding forms of play behavior, namely replicating play (play in which models, rules, guidelines and examples are used to reach an intended result) and originating play (play in which children create something from the mind, think more freely about how they will play, are less restricted by given rules and models). These play forms can also be linked to the characteristics of play that were discussed in the introduction. Rubin et al. (1983) defined play as being *nonliteral* in the way that it should be detached from reality and should incorporate experimentation. Originating play would be more related to the nonliteral characteristic of play, since we define it as being linked to a deviation from existing preset toys and examples. Another characteristic of play was found in the description of Burghardt (2005) and Huizinga (1955), who characterized play as *repetitive and rule-based*. Replicating behavior can then be more linked to the repetitive component of play, since it focuses on following predefined examples and models to play. These play types are also often used by marketers when making toys and play activities, for example construction sets of Lego (LEGO® Classic product website, 2016) and Duplo, paint-by-number kits etc. (replicating) – but also games such as role play, imaginary behavior with Lego, etc. (originating), making it especially relevant for consumer behavior research to explore them in depth.

Study 1 explores how and if children can perform these two play dimensions – even with similar types of toys and games. Study 2 examines to what extent preferences for more replicating or more originating play can relate to the environment children are in. We find that children prefer originating (vs. replicating) at school (vs. home). Study 3 qualitatively examines reasons for these differences and provides determinants for both play types. We find that children have quite solid determinants to prefer both types of play. Additionally, appendix A of this chapter provides an additional study in which we show that a general preference for replicating or originating play relates to play choices children make based on advertisements that entail elements related to the play dimensions we proposed.

The second part of this dissertation will specifically concentrate on the previously described desire part of children's consumer activities and explores how one particular technique marketers make use of, namely employing attractive models in advertising, influences advertising effectiveness and self-perceptions in children (chapter IV and V). Advertisements make use of a diverse range of advertising techniques, one of which is the use of idealized images and attractiveness representations. Both chapters explore whether the use of attractiveness cues in toy advertising has intended effects on children's desire activities, under the form of attitude towards the ad and purchase intentions and has unintended effects on children's self-perception.

Chapter IV, *"Assessing the What is Beautiful is Good stereotype and the influence of model attractiveness on self-perception and advertising effectiveness for 8- to 13-year-old children"*, examines (1) whether children of 8- to 13-years-old use the "what is beautiful is good" stereotype, also known as the physical attractiveness stereotype for models in ads, (2) whether children's self-perception is influenced by their perceived attractiveness of an advertising model and (3) whether children's attitudes towards an ad and buying intentions for a non-beauty related product relate to the attractiveness of an advertising model. Results of two experimental studies with respectively 8- to 9-year-old and 12- to 13-year-old girls and boys confirm the presence of the physical attractiveness stereotype in children. The presence of a moderately attractive (versus less attractive) model has a negative influence on general self-worth for 8- to 9-year-old boys, but not for girls, nor for 12- to 13-year-old children. The studies also show that moderately attractive (versus less attractive) models increase attitudes and buying intentions for 8- to 9-year-olds, but not for 12- to 13-year-old boys and girls.

Chapter V, *"The influence of model attractiveness on self-perception and advertising effectiveness for 6- to 7-year-old children",* explores the effects of using attractive models in advertising for 6 to 7 year old children. As the introduction made clear, the age of 6 to 7 years old can be seen as a tipping point in children's development, since children of that age are not yet fully aware of the persuasive intent of advertising, are more focused on perceptual than on cognitive information in ads and are more focused on irrelevant rather than relevant ad information. More insights are therefore needed about whether attractive advertising models influence self-perception and advertising effectiveness of children this young, in order to help policy makers, parents and advertisers understand these effects (Bijmolt, Claassen, & Brus, 1998; Martin & Gentry, 1997). Two experimental studies show that when children of 6 to 7 years old rate advertising models as being more attractive, advertising effectiveness raises, but children's perceived self-worth and children's perceived physical attractiveness are unaffected. This means that 6- to 7-year-old children use model attractiveness as a perceptual cue to rate ads but they are not yet using comparisons with these models to evaluate themselves, which is in line with the social comparison theory of Festinger (1954).

To conclude, the aim of this dissertation is to gain better insights in the consumer activities of children. We will therefore explore two types of touchpoints children have with consuming, namely play activities and advertising exposure.

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CHAPTER II
I WANT, SO I PLAY.
HOW MATERIALISM AFFECTS CHILDREN'S OUTCOME AND PROCESS ORIENTED PLAY

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I WANT, SO I PLAY. HOW MATERIALISM AFFECTS CHILDREN'S OUTCOME AND PROCESS ORIENTED PLAY.

1. Theoretical Background

1.1. Importance of play in consumer psychology research

In 2013, Pham addressed his concerns about the relevancy of research in the consumer psychology field, both in terms of relevance for practitioners and public policy as in terms of the consumer researcher society in general. He discussed seven sins he argued to be currently underlying consumer psychology research (Pham, 2013). One of these sins was described as the narrow scope of the research field. Pham (2013) reasoned that although most researchers agree that the consumer processes consists of desiring, learning, acquiring, using, and disposing of consumer objects, most of the articles published in consumer research still focus on the acquisition part, such as for example effects of advertising exposure and ways to examine decision making (Holbrook, Chestnut, Oliva, & Greenleaf, 1984; Pham, 2013). Although these activities are extremely relevant, the acquisition part of consuming is only a very small part of the whole process and the exploration of more neglected activities in the consumer process deserves more attention (Holbrook et al., 1984; Pham, 2013). For example, little research focuses on usage activities and examines how consumers handle, want and need products or looks at the goals consumers have once they acquired a product (Pham, 2013).

This research void is predominantly unfavorable for one particular group of consumers, namely children. They are not always involved in these purchase -, decision making - and acquisition activities. Children are for example less often the behavioral decision makers in purchases and often use products and toys that they do not own for themselves, but only use, share or borrow (Belk, 2010). In fact, children are rarely the specific "owner" of products. Think of the house they live in, the food they consume or the products they use when they are with friends… these products hardly ever actually "belong" to the child. Some consumer research might therefore exclude the specific handlings that children have with products and

materials. More applicable consumer processes for children are for example to be found in usage activities, because they incorporate the possibility of behavior such as for example sharing products, merely using an acquired product, borrowing products, playing with toys etc. In consumer research, however, there is little emphasis on examining children's product usage experiences (Moore & Lutz, 2000). This paper will explore one particular usage activity children often engage in and in which they specifically use products, namely play.

Play has been discussed as a consumer activity in some articles before. First, Holt (1995) for example saw play as a consumer activity specifically because it incorporates the usage of recourses. The objects that are played with are the materials that provide the possibility of play. Children do however often play with products they are not specifically the owner of, products that they did not buy themselves (for example crayons in school, materials used when they play at a grandparent's house etc.), products that they have for example borrowed from others or toys or games that they have to share with friends. This makes play a particular usage instead of acquisition activity.

Second, Holbrook et al. (1984) proposed the term "playful consumption", which they defined as belonging to "a broad class of intrinsically motivated consumer behavior that includes leisure activities, hobbies etc." (Holbrook et al., 1984, p. 728). They argue that consumer behavior is more than merely "buying" products, but can also entail "consuming" them, in the form of play. Although our paper does acknowledge that there are many forms of play that cannot be seen as a consumer process or cannot be linked to consumption in general (for example some types of imaginary play), we agree with the preposition of Holbrook et al. (1984) that children can in fact build consumer experiences around consumer objects and these experiences, in the form of play, should be seen as part of the consumer process, since they are in fact experiences in which children often use and consume products, for example in the form of toys and games.

Third, playing shows similarities with elements of consumer socialization, the process in which children acquire and learn the skills and attitudes needed to perform consumer actions (John, 1999; Ward, 1974). Children are starting to discover their role as a consumer by expressing their consumption attitudes in different activities and they can also do this in their play behavior because playing involves interactions with toys, choosing between play activities and different products (i.e. games), evaluating these games after playing and deciding to keep on playing the same game or choosing another one.

Children's daily activities -and specifically play- can thus be seen as particular usage activities in which they engage in the consumer process, specifically because children use toys and games in their play activities (Holbrook et al., 1984). Our paper contributes to this idea by examining to what extent consumer values can in fact be the drivers behind motives children have in their play activities. We specifically focus on one type of consumer values, namely materialistic goals and want to explore to what extent aspects of a materialistic nature can be at the basis of a child's play orientations.

1.2. Materialism in children's consumer culture

As was argued in the introduction, consumer behavior research is less often focused on the usage activities in the consumer process (Pham, 2013), which is particularly detrimental for insights in children's consumer behavior, since they are the consumers for which usage activities are very important (Moore & Lutz, 2000). This was also brought forward by Moore and Lutz (2000), who reason that although there is for example a lot of knowledge about the effects of advertising on product desire, there are far less insights in what happens after that stage. One field in which the research gap is present is research on children's materialism. Likewise with the reasoning of Moore and Lutz (2000) for general consumer behavior literature, researchers in the field of materialism have also mostly focused on the link between materialism and advertising exposure in childhood, and examined to what extent materialistic goals have an impact on product desire - or vice versa: to what extent advertising exposure can stimulate materialism. Less research exists on possible effects of materialism on product usage (after advertising exposure). This can be important, however, since material values might also translate into how children engage with products and toys. Since play is children's primary activity (Stagnitti & Unsworth, 2000) and is by definition linked to intrinsic motivation (Holbrook et al., 1984), insights in the impact of materialistic values on play orientations is therefore a specific phenomenon that merits more research attention.

Materialism is one of the consumer values that children encounter in their socialization process. As children grow up, they learn how to behave as a consumer and also gradually incorporate and internalize consumer values (Ward, 1974). Children learn how to use these consumer values and thereby develop as a consumer. Researchers usually agree that materialism develops somewhere between infancy and childhood, but there is actually little evidence to suggest when it does so exactly (Chaplin & John, 2007). Materialism is said to be first exhibited in middle to late childhood, from about 8 to 12 years (Chaplin & John, 2007).

Chaplin and John (2007) also find that materialism does not linearly increase with age, but peaks for children at the age of 12 to 13 years old, as compared to children of 8 to 9 years old and adolescents of 16 to 18 years old. The age of 7 to 13 years is therefore crucial in the development of materialistic values.

It is especially important to put research on children's materialism on the agenda, because materialism in young people has actually been found to increase over generations (Easterlin & Crimmins, 1991; Twenge & Kasser, 2013). The growth in wealth and prosperity in Western societies has led to an increased focus on money, extrinsic goals, material ideals and possessions (John, 1999; Kasser et al., 2014; Opree, Buijzen, van Reijmersdal, & Valkenburg, 2011; Vansteenkiste, Soenens, & Duriez, 2008). The "more is better" dogma is omnipresent and makes people believe that we live in a society where we can get whatever we want, whenever we want. Twenge and Kasser (2013), for example, showed that young people's materialism levels increased from the 1970s to early 1990s, then decreased slightly into the 2000s, but still remained significantly higher than the materialism levels for adolescents in the 1970s. Also, in a study of Nairn, Ormrod, and Bottomley (2007), one third of the participants of 9 to 13 years old indicated they would rather "spend time buying things than doing almost anything else" and half of them said that they "would be happier if they had more money to buy things for themselves".

Not surprisingly, children's materialism is a specific concern for a lot of caretakers, parents, teachers and academics. This has led to increased worries about the effects of this refocused consumer culture on children's materialism levels (Buijzen & Valkenburg, 2003; Chaplin & John, 2007; Opree, Buijzen, & Valkenburg, 2012). The concerns are not unwarranted, given the fact that materialism has a bad reputation. The reason for this is already reflected in the definition of materialism. Some studies have provided definitions of materialism in children, mostly composed of adaptations from definitions used for adults. Chaplin and John (2007), for example, refer to definitions of Belk (1984) and Richins and Dawson (1992), who both describe materialism as a focus on possessions, namely "the importance a consumer attaches to worldly possessions" (Belk, 1984, p. 291) and "the importance a person places on possessions and their acquisition as a necessary or desirable form of conduct to reach desired end states, including happiness" (Richins & Dawson, 1992, p. 307). Our paper adds the definition of Shrum et al. (2013: p1180) to these conceptualizations of materialism, since they redefined materialism as "the extent to which individuals engage in the construction and maintenance of the self through the acquisition and

use of products, services, experiences, or relationships that are perceived to provide desirable symbolic value". This latter definition also incorporates activities that go beyond acquisition activities and thus adheres to the remarks on consumer research as made by Pham (2013).

These definitions stress that a materialistic person sees the acquisition of goods and the use of consumer products as desirable to achieve life goals (such as happiness) and to construct an identity. For materialists, these life goals are often dependent on deeper unmet needs and insecurities (Burroughs et al., 2013; Richins & Dawson, 1992). Although materialism may have (short term) benefits, for example by tapping into these insecurities and offering short term solutions for them, materialism has been associated with a diverse range of negatively perceived effects and personality traits, such as possessiveness, envy, lack of generosity, greed (Belk, 1985) and even psychopathology (Twenge et al., 2010) and compulsive buying (Dittmar, Bond, Hurst, & Kasser, 2014). Materialism has also been related to decreases in several aspects of well-being, such as for example self-appraisal, self-esteem, physical health and the engagement in several health risk behaviors (Dittmar et al., 2014; Vansteenkiste et al., 2008).

Despite these concerns, however, up till now, materialism research especially concentrated on adults and adolescents and rarely on children (Achenreiner, 1997; Chaplin & John, 2007; Cook, 2008). Additionally, studies that do examine children's materialism mainly focus on behavioral intentions, children's attitudes, self-reported behavioral estimates (for example; Goldberg, Gorn, Peracchio, & Bamossy, 2003) and rarely on children's actual and experimentally tested behavior or on how children actually behave in the consumer market (Cook, 2008). Research that does study children's materialism first of all rarely includes children's measures, but rather incorporates parental measures (which are inferences of third parties about a child and might therefore be biased). Moreover, the effects examined fall in a narrow range, since materialism research with children specifically focuses on effects on family relationships and negative effects on well-being. Little studies directly examine the impact materialistic values have on children's performance in daily activities, such as play.

1.3. Materialism and children's play orientation

In materialism research, recently a lot of emphasis is put on the relation between materialism and the engagement in and enjoyment of experiences and activities (Nicolao, Irwin, & Goodman, 2009). The acquisition and enjoyment of experiences might stem from

materialistic motives. This is also reflected in the earlier described definition of Shrum et al. (2013: p1180). In this definition, experiences such as playing are acknowledged as possibly containing materialistic elements since the definition incorporates usage activities, which means that playing might also be behavior that can incorporate materialistic values and motives. Shrum et al. (2013) even argued that the use of products can be the main way in which people try to form an identity. In this paper, we examine if materialism can be seen in play when children focus on different goals during the play activity. As in the work of Shrum et al. (2013), we propose that materialism is reflected when children perform behavior, make choices or motivate themselves. Although Shrum et al. (2013) also focused on the reason why materialistic people pursue these materialistic motives, which they found to specifically related to fulfillment of self-identity goals, we will not go deeper into this, but rather focus on the consequences of material motives.

This paper argues that playing has a duality between certain output and end-state elements on the one hand and experiential, process elements on the other hand. We therefore propose two types of orientations children can pursue during a play activity, namely outcome oriented play and process oriented play. *Outcome oriented play* is defined is this paper as "*play behavior in which children play because of the object, end-result and outcome of the play activity*". When children play outcome oriented, they play because they want to reach an outcome or result. Outcome orientation would for example occur when children play a jigsaw puzzle with the specific reason to finish the jigsaw puzzle or when children play with Lego and do so because they focus on what is being made at the end (for example the tower or airplane that they planned to make). *Process oriented play* is defined in this paper as "*play behavior in which children play because of the process and the development of the play activity, regardless of what its outcome is*". When children play *process oriented,* they mainly play because of the process of the play activity. Process orientation would for example occur when children play a jigsaw puzzle and want to enjoy laying down and fitting all the pieces, or when they play Lego and enjoy making the constructions, regardless of reaching a certain outcome. We argue that process and outcome orientation are two types of play orientation that children employ as reasons to play.

Hypothesis 1: Children can engage in a particular play activity for two reasons, they can play process and outcome oriented.

To be able to test our hypotheses, some clarifications need to be added to our definition of outcome and process orientation. First, for most toys and games, a specific outcome and process can be put forward, such as for example a board game, a jigsaw puzzle etc. For some types of play activities, a clear outcome is less predefined and less universal, such as for example imaginary games, dressing up etc. We will therefore not elaborate on these latter play activities, although they can in essence still be part of our definition (e.g., when dressing up, children can also be outcome oriented to the extent that they do not particularly enjoy the actual process of dressing up but rather enjoy "being" dressed up and seeing the result).

Second, the play behavior that will be examined in our experiments will be solitary behavior. Solitary play is the kind of play that develops early on in a child's life and is therefore well developed (Piaget, 1962). Cooperative play is also different from solitary play in many ways (Parten, 1933; Piaget, 1962; Rubin, Fein, & Vandenberg, 1983; Rubin, Maioni, & Hornung, 1976). The inclusion of cooperative play would be interesting, but is beyond our score if we wish to examine the basic effects of materialism on play orientations.

In some of the definitions of play, there are some elements that at first sight seem contradictory to the proposed play orientations. In the definition of Huizinga (1955) of the concept of play, for example, play is seen as an activity that children do without a focus on material interest or profit. Pellegrini and Smith (1998) argue that play is essentially focused on the means of play, rather than on its ends and see play as "purposeless". These claims however, have also been criticized, since they exclude for example games played with economic benefits (for example gambling for money) or go against the general understanding that play can exist of a certain effort that results in the production of something (Anchor, 1978; Caillois, 1955). We need to stress that there are play activities that have no tangible or material "outcome". Our definition of outcome oriented play allows for an inclusion of these types of play activities, but it is important to note that in this paper, we will mainly focus on tangible and material objects of play activities when discussing outcome orientation.

Since material gains might be specifically related to materialistic foci, we argue that especially materialistic children will be interested in the outcomes of play activities. The goal of our paper is to examine how materialism can be of influence on the reasons why children play. We propose that materialists are more interested in playing because of the end-result and outcome of play (which is related to more material and object-centered goals) and less

materialistic children are less interested in these outcome goals. In what follows, we give several arguments that stem from reflections on previous literature to explain our assumption.

First, some studies do reflect upon play orientations that can stem from materialistic values and that relate to outcome and process motives. Holt (1995) for example claimed that materialists especially focus on the object of playful experiences, rather than on the experience of playing. He also claims that people who emphasize materialism, prefer material objects over experiences. This would relate to the definition of outcome orientation since outcome orientations are also more related to the object of the play activity. Also, the definition of materialism incorporates the idea that materialists believe that acquiring things will make them happier (Belk, 1985; Shrum et al., 2013). They are therefore already focused on acquisitions. In outcome orientation, this acquisition part is also prominent, since outcome orientation was defined as a focus on reaching the end-result.

Second, literature also reflects upon the idea that children play because they can produce something (Anchor, 1978; Caillois, 1955). Yang, Mao, and Peracchio (2012) define process and outcome as contributors to consumers' evaluations of experiential consumption. For example, people can watch a basketball game not only for the outcome (e.g., their favorite team wins the game) but also for the process (e.g., it is pleasurable to watch an exciting game). They specifically see an outcome focus as a gratification of end-goals and the process focus as the means through which these end goals are satisfied and provide utility.

We hypothesize that materialism relates to play to that extent that materialistic children focus on the outcome of a play activity and value the result, object or end-state of play activities. Additionally, we hypothesize that materialism is unrelated to process oriented play, because the focus there lies on the process or the experience of playing itself. In focusing on the process of playing lies no focus on material attainment or material engagement, so we do not expect that this particular orientation directly relates to materialism.

> Hypothesis 2: Materialism is positively related to outcome oriented play, and unrelated to process oriented play.

Since at its most basis description, play is seen as a range of voluntary, intrinsically motivated activities associated with recreational pleasure and enjoyment (Garvey, 1990), intrinsic motivation should be essential to all kinds of play. Cognitive Evaluation Theory, one of the five mini-theories of self-determination theory (SDT, Deci & Ryan, 2000; Kasser & Ryan,

1996; Ryan & Deci, 2000), argues that people can be intrinsically motivated to engage in certain activities. Intrinsic motivation is described in SDT as the motivation to actively engage in an activity that someone finds interesting and enjoying for its own sake and not as a means to another reward (Deci & Ryan, 2000; Isen & Reeve, 2005). More intrinsic motivation for an activity leads people to express their own interest and values in this activity, makes them experience a feeling of full emersion and absorption, makes them able to deal with the challenges of the activity and leads to more satisfaction from the activity (Vansteenkiste et al., 2008). A lack of intrinsic motivation occurs when people experience a feeling of disinterest and no enjoyment in the activity at hand. It also implies that people engage in the activity as a means to reach a separable outcome (or result), such as for example rewards and gratifications that lie outside of the course of the activity (Vansteenkiste et al., 2010).

Since process as well as outcome orientation are both perceived as "play", and play is in essence intrinsically motivated, they should both yield intrinsic motivation. Additionally, what we see as the outcome of an activity is actually inseparable of the activity itself, which would exclude it from being an extrinsic reward as described by SDT (Deci, 1975; Deci, Koestner, & Ryan, 2001). We therefore define process and outcome orientation as motivators that are independent of external factors (such as rewards, praise from others …), and hypothesize that both stem from intrinsic motivators. Reaching an outcome or end-result can in se still be intrinsically motivated because it still lies within the activity and within the self and has no external focus of gratification. For example, when children play to see the end-result of their paint-by numbers kit, they still focus on gratification retrieved from the actual play activity and are not motivated by extrinsic goals. A child can play to win a game, and can therefore be outcome oriented, but if his motivation to engage in the activity lies within the activity, he is intrinsically motivated to play the game. This will for example show in the level of interest and enjoyment this child has in playing the game.

Additional support for the idea that process as well as outcome orientations are intrinsically motivated can be found in the work of Yang et al. (2012). For them, process and outcome are both contributors to consumers' evaluations of consumer experiences and both provide gratification. This is also true for children's play behavior: if children play because of process or outcome orientation, there must be something they gain from the activity, or otherwise they would not play for this reason. We therefore argue that outcome and process orientation both contribute to intrinsic play motivation, which is in essence the gratification children could be expected to be retrieving from play. We focus on interest and enjoyment of

an activity, since these are two fundamental aspects of one's intrinsic motivation for that activity (Ryan, 1982; Ryan & Deci, 2000; Vansteenkiste et al., 2008).

Hypothesis 3: Process as well as outcome orientations are positively related to intrinsic motivation (interest and enjoyment) to play.

One should be aware that the intrinsic motivation discussed is this paper specifically relates to the task at hand and is not to be confused with overarching life goals and aspirations, which can also be intrinsically and extrinsically driven. Intrinsic and extrinsic life aspirations have been thoroughly discussed by the self-determination theory (SDT, Deci & Ryan, 2000; Kasser & Ryan, 1996; Ryan & Deci, 2000). Intrinsic aspirations are life goals that directly satisfy an inherent psychological need (such as affiliation, personal growth, and community), while extrinsic aspirations focus on satisfying life goals that are not primarily inherent, but rather external (such as wealth, fame and praise) (Kasser & Ryan, 1996; Ryan & Deci, 2000). It has been shown that particularly intrinsic aspirations contribute to well-being (Kasser & Ryan, 1996; Ryan et al., 1999; Ryan & Deci, 2000) and also that materialism relates to extrinsic aspirations (Kasser & Ryan, 1996), which is not surprising, given our previous description of the detrimental effects of materialism on well-being. Despite the fact that materialism has been seen as a way to deal with deeper lying extrinsic needs and goals (Kasser & Ryan, 1996), we argue that outcome orientation – albeit related to materialism – is positively related to intrinsic play motivation, since play is in essence intrinsically motivated (even though it stems from one correlate of extrinsic aspiration, namely materialism).

This is also in line with the definition of Shrum et al. (2013), who defined materialistic people as people who see the acquisition and use of products, services, experiences, or relationships as a way to construct the self. One of the consequences of materialism described by Scrum et al (2013) is subjective well-being. Shrum et al. (2013) claimed that, although it is generally believed that materialism is negatively related to well-being, recent studies seem to be arguing towards the idea that this relationship may depend upon the underlying motive for the materialistic behavior. People's striving for financial success for example, which is a materialistic and extrinsic life goal, can sometimes be beneficial for well-being - since people can use financial success to provide security and support of family. Likewise, achieving intrinsic motivation by playing might be one way to achieve benefits for the self. Therefore, despite the fact that they may eventually stem from extrinsic pursuits, they can still engender (short term) task motivation.

Additionally, we specifically elaborate on the relation between outcome orientation, materialism and intrinsic play motivation. We zoom in on the types of outcomes that can be present in play behavior and hypothesize that the type of outcome moderates the relation between materialism and intrinsic play motivation. In children's play behavior, the outcome of an activity can for example be perfect and as intended by the players or it can also be imperfect, for example when a craftwork that children have been putting a lot of time and effort in doesn't turn out as expected, when a toy breaks down in the middle of playing and children cannot proceed, or when children make a painting that looks nothing like the example they have been following.

One could reason that materialistic children are especially struck by an imperfect outcome. Since materialistic children are outcome oriented, they aim to see the end-result and this might mean that an imperfect end-result hinders their objective. One could also argue that materialistic children see the outcome of the activity as the end goal in itself and get satisfaction from either an imperfect or perfect outcome – as long as there is an outcome. Regardless of what that outcome looks like, be it imperfect or perfect, materialistic children might be motivated. Their goal is after all to reach a target outcome and perhaps, this outcome does not need to be perfect to yield intrinsic motivation. This can also be the case for less materialistic children. Since they are hypothesized not to be driven by the outcome of an activity, they can either have no interest whatsoever in the type of outcome and remain equally intrinsically motivated when a perfect or an imperfect outcome is attained. Otherwise, they might also be especially struck when they reach an outcome in a play activity and might be averse for outcomes of play activities. They might value play experiences that have no outcomes because they have a specific inclination to dislike end-results of play activities.

Hypothesis 4: The type of outcome (perfect or imperfect) moderates the relation between materialism and intrinsic motivation (interest and enjoyment) to play.

Three studies and a pretest are conducted to test these hypotheses. Study 1 and 2 test whether materialism relates to outcome and process motivations in play activities. Study 2 additionally examines if outcome and process motivations relate to children's intrinsic play motivation and if materialism affects intrinsic play motivation. Study 3 eventually looks at two different types of outcome: a perfect or imperfect outcome and examines if they moderate the relationship between materialism and intrinsic motivation.

2. Pretest

Prior to testing our hypothesis, a pretest was conducted to establish whether children acknowledge our proposed types of play orientation. We examine whether outcome orientation can be defined as a focus on the end-result or object of the play activity and process orientation as a focus on the process and the experience of the play activity.

2.1. Participants

This pretest was set up as a semi-structured focus group interview. It was conducted in three grades of one school, the first grade (seven year old children), third grade (nine year old children) and the fifth grade (11 year old children). Each grade consisted of approximately 20-25 children. Consent of the teacher and school was obtained prior to the study.

2.2. Method

The interviews were moderated by the same interviewer in each class and attended by the teacher of the class. Children were first briefed about the purpose of the focus group and were then given a description about outcome and process orientations. They were introduced to both concepts with a general distinction between both, viz. “Why do you play a game? Because playing itself is fun or because what you get from playing is fun?”. Additionally, they were provided with a detailed description of both play orientations, viz. “You can play because the activity of playing is pleasurable. You choose the activity because the playing part itself is fun. On the other hand, you can also play because you have made something fun at the end, you especially look at what you get from these play activities.” Children were asked to give examples of toys, games and play activities corresponding to these descriptions.

2.3. Results and Discussion

Since children could give examples of both play orientations, this pretest shows that outcome and process orientation are possible reasons to play for children. Children for example indicated that playing poker (which was a very popular game at the time the study took place) is an activity that is played specifically for the outcome, while playing tag is played for the process of the activity. On the other hand, some play activities are simultaneously provided as examples of both play orientations. Crafting, for example, is seen by some children as outcome oriented, while others play it for the process of the game. This

also seems to hold for sports. Running, for example, is performed by some children because they want to reach a certain running speed, while others run because they just like running. This shows that both orientations can be found in play behavior.

Results also indicate that winning something (such as a medal or applause) or winning from other children emerges as an aspect of outcome orientation. Children specify that a medal, applause, praise etc. can in fact be their driving goal to engage in an activity. Motivations for these kinds of rewards are, however, external to the play activity itself, and therefore excluded in our further studies. We focus on play orientations that reside within the game itself (e.g., reaching the outcome, having a drawing after a drawing activity) regardless of external outcomes of this game (e.g., winning a medal, getting praise after running). We do so because these external outcome are actually not a part of the play activity.

Some considerations were made before conduction each of the studies that are presented next. Parental consent was for example necessary before a child was allowed to participate to the studies. To do so, written consent letters and a brief description of the study were provided. To optimize transparency, parents also had the opportunity to leave their email address in case they wanted to read the paper afterwards. Children were also briefed at the beginning of the study and were specifically told they were allowed to stop whenever they wanted. Children were briefed that this was not a test, but rather a questionnaire that wanted their true opinions and therefore, there were no "right" or "wrong" answers (an exemplar question was each time given, referring to a socially desirable answer pattern, such as "Do you like the sweater of the interviewer?" – for which children were told that if this would be a question in the study, and they in fact disliked the sweater, they were encouraged to honestly indicate this answer).

3. Study 1

The objective of study 1 is to test if children play outcome and process oriented and if materialism is related to outcome and process orientations to engage in a play activity.

3.1. Participants

A total of 125 children between seven and eleven years old were recruited in a summer holiday camp (M_{age} = 9, SD_{age} = .78, 58% girls). They all lived in the region of Flanders, Belgium and had the same mother tongue (Dutch). All children attending the summer day

camp spent at least one week of their summer holiday there and were as a result accustomed to the environment. Children were recruited by approaching the parents of each child when they inscribed their son or daughter at the first camp day. Written parental informed consent was therefore obtained for all participants.

3.2. Method

Groups of maximum four children were brought to an outdoor pavilion located outside the camp site. All children were placed at separate tables and out of sight of each other, to assure that there was no interaction between them, that they were unable to see each other's answers and that they could not be disturbed by others while responding to the questionnaire. All children were interviewed without the presence of parents, teachers or camp leaders.

This study was part of a larger study in which children first got a brief description of the questionnaire and answered demographic questions regarding gender and age. Next, they filled out a materialism questionnaire and were asked to take a break by coloring. They were presented with four exemplar pictures which they could use or they could also draw on a blank sheet of paper. Afterwards, they filled out questions about this play activity (play orientation: outcome/process oriented). In between the specific measures, children also filled out other constructs, which were not used in this paper (Appendix A). The children were then debriefed, asked not to talk about the study, and compensated with a small reward in return for their participation. Children were unaware of any time restrictions and colored as long as they wanted. The interviewer, however, recorded the time children spent on the task.

3.3. Measures

Materialism was measured by using two scales that are both based on the same studies of Churchill and Moschis (1979); (Moschis & Moore, 1982; Ward & Wackman, 1971). First, the Dutch materialism scale of Buijzen and Valkenburg (2003) and Buijzen, Rozendaal, Moorman, and Tanis (2008) was used. This scale is designed for children between eight and 12 years old, consists of five items and is based on previous studies that measure materialism in children and adolescents (Churchill & Moschis, 1979; Moschis & Moore, 1982; Ward & Wackman, 1971). This scale is a particularly good option for our paper since its items are adapted to the native language of our respondents. Examples of questions are "Do you think it is important to have a lot of money?" and "Do you think it is important to own a lot of things?". Second, this scale was supplemented with the Youth Materialism Scale (YMS) of

Goldberg et al. (2003), which is a scale especially adapted to children of 9 to 14 years old. The YSM originally consists of ten items. Because it is based on the same studies that were at the basis of the scale of Buijzen and Valkenburg (2003) (Churchill & Moschis, 1979; Moschis & Moore, 1982; Ward & Wackman, 1971), five of the items show considerable overlap with the items used in the scale of Buijzen and Valkenburg (2003). Therefore, only the five items that differed most from the scale of Buijzen and Valkenburg (2003) and Buijzen et al. (2008) were included. Items were for example "Do you like to think about all the stuff you have?" and "Do you like kids that have very special games or clothes?". Instead of using statements (which is done in the original YMS scale) the items were transformed into questions, firstly to make them consistent to the items of the scale of Buijzen and Valkenburg (2003) and Buijzen et al. (2008), but secondly because the latter authors indicate that it is easier for children to respond to personality and trait scales when questions rather than statements are used (Buijzen & Valkenburg, 2003). Children responded to all items on a five point scale ranging from (1) "NO, absolutely not" to (5) "YES, absolutely".

Two items were removed from the scale to improve reliability (Cronbach's α improved from α = .62 to α = .69). One of these two items was difficult to understand for most children: "Do you rather not share your stuff if it means you'll have less left for yourself?". The interviewer needed to repeat this question multiple times, which indicated that the item was less fitting for our sample. The other item, "Do you enjoy shopping", was perceived in different ways and could also indicate a positive attitude for the social component of shopping (cfr. Nairn et al., 2007). For example, some children asked the interviewer what they were shopping for (clothes, groceries, toys …), others indicated that they liked to help their mom when she did groceries (which can hardly be seen as a materialistic expression). The eight remaining items were averaged to compose the materialism scale (M = 3.22, SD = 0.62).

Play orientation (outcome vs. process). Children's play orientation was measured by using a one item measure, namely "What defines best why you decided to color this/draw?", with two options; "Because I really liked the picture itself" (outcome orientation) or "Because I really liked the act of coloring this picture/drawing" (process orientation). Both definitions were obtained by using the descriptions that were gathered from the pretest. Respondents' choice of play orientation was coded as a binary variable ("0" for the respondents who chose process orientation, "1" for the respondents who chose outcome orientation). The interviewer also recorded which of the exemplar models children chose.

3.4. Results

Results show that 66 children indicated that their reason to color/draw was process oriented (53% of the children), 58 children indicated that their reason to color/draw was outcome oriented (47% of the children). A binary logistic regression was employed to analyze the play orientation as a function of materialism. Results revealed that materialism was significantly related to the probability of having outcome oriented play goals (b = .68, *Exp.(B)* = 1.98, *SE* = .32, Wald's $\chi 2 = 4.65$, $p < .05$) (figure 1).

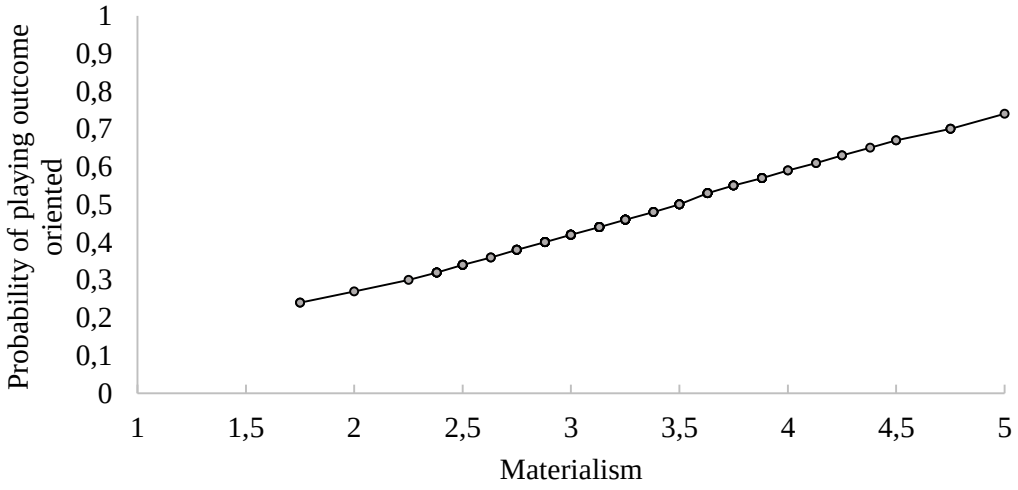

Figure 1. Probability of choosing outcome over process orientation after playing as a function of materialism

We also controlled for gender, age and time spent coloring and the type of picture children colored since we provided four different examples and the option to draw something on a blank page. Dummies were created for each of the exemplar pictures children could choose from and used as covariates in the model. The relation between materialism and play orientation remained significantly positive after controlling for these variables (b = .66, *Exp.(B)* = 1.94, *SE* = .34, Wald's $\chi 2 = 3.78$, $p = .05$).

3.5. Discussion

Study 1 shows that materialism contributes to the probability that children play outcome (vs. process) oriented. Some questions remain apparent after this study. First of all, we used a particular type of play activity, coloring, and cannot make inferences about other play activities. Second, children had to choose between outcome or process orientation due to the question format. A forced choice option might reduce the reliability of the answers and might boost the effect. Also, a forced choice option suggests that process and outcome orientation

are two sides of one spectrum, whereas one could argue that, for example, the opposite of being "outcome oriented" is not necessarily being process oriented, but rather corresponds to being not focused on the outcome or being outcome-averse. Yang et al. (2012) for example claimed that "for experiences, process and outcome can be inconsistent with or orthogonal to, each other". For example, one can watch a baseball game and be thrilled about the process of this game, and can eventually be pleased with the outcome (if the team wins) or be dissatisfied with the outcome (if the team loses). In play behavior, a child might play because of the rewarding nature of the process of the particular activity, but the child can simultaneously be focused on reaching a specific outcome in that play activity. Therefore, a second study was set up to replicate the effects found while controlling for these elements.

4. Study 2

Study 2 was set up to (1) examine the possibility of replicating the effect with a different play activity, (2) measure outcome and process by means of two separate items and (3) examine the impact of these play orientations on intrinsic play motivation and more specifically the interest and enjoyment of the activity. Therefore, intrinsic play motivation is added to the model of study 1.

4.1. Participants

Participants were 60 children between 7 and 10 years old. They all lived in the region of Flanders, Belgium and had the same mother tongue (Dutch). Three children were excluded from further analysis because the interviewer specifically indicated that they filled out the questionnaire extremely fast and inattentive. Fifty-seven children were included in further analysis (M_{age} = 8; SD_{age} = .63, 44% girls). Children were interviewed in their school and were recruited by sending parents a consent letter via the school correspondence. Children whose parents handed in the written consent, were invited to participate to the study.

4.2. Method

Children were interviewed in their classroom, at their own class table with a clip file folder in between the tables. They received a paper-and-pencil questionnaire, were briefed about the study and filled out demographic questions such as gender and age. The interviewer read the questions aloud, while children filled out their responses (this approach facilitated the ease of understanding the questions and children's ability to respond in a structured and uniform

way). Children completed the materialism scale, were subsequently asked to imagine themselves playing with a jigsaw puzzle and answered questions about their play orientation and intrinsic motivation for the activity. They were then debriefed, asked not to talk about the study to their peers and compensated with a small reward in return for their participation. This study was also part of a larger study in which children also filled out other constructs, which were not used in this paper (Appendix A), but served as filler items in between the materialism scale and the questions about the play activity.

4.3. Measures

Materialism. Given the duration of the previous study and the fact that other measures were also included, the length of several measures was reduced. In light of the good reliability of the materialism scale in study 1, two of the eight items that were used in the scale in study 1 were used, namely "Do you think it is important to have a lot of money" and "Do you think it is important to have a lot of stuff". These items were selected for several reasons. First of all because they represent both a focus on money and on material objects. Second, because these are the items that consistently emerge in diverse scale formats used to measure materialism with children, such as for example in the scales of Buijzen and Valkenburg (2003) and Buijzen et al. (2008) but also in the Youth Materialism Scale (YMS) of Goldberg et al. (2003) and in the more recently developed scale of Opree et al. (2011). Third, these two items were used because they are often used as typical examples of the scales in previous research and because those are the items that were best understood by children study 1. Materialism was again measured on a five-point scale ranging from (1) "NO, absolutely not" to (5) "YES, absolutely" and its reliability was good (Cronbach's $\alpha = .79$, $M = 3.04$, $SD = 1.08$).

Intrinsic play motivation was measured with a shortened version from the seven-item Interest/Enjoyment subscale of the Intrinsic Motivation Inventory (IMI, Ryan, 1982).
The interest/enjoyment subscale is considered to be the best suited self-report measure of intrinsic motivation and the only subscale that assesses intrinsic motivation, in se. This Interest/Enjoyment subscale therefore best represents a self-report measure of intrinsic motivation. Because of problems with redundancy of items, shorter versions of the scale have been used and been found to be quite reliable. For example, previous research already used shorter versions, with a mix of different items (Dimmock, Jackson, Podlog, & Magaraggia, 2013; McAuley, Duncan, & Tammen, 1989; Mouratidis, 2011; Whipp, Jackson, Dimmock, & Soh, 2015). Three items of the original scale were particularly adapted to children's language

and understanding. One item reflects the interest component ("Do you think playing a jigsaw puzzle is boring?", reverse coded afterwards) and two items reflect the enjoyment component ("Do you think playing a jigsaw puzzle is fun?" and "Do you feel good while playing a jigsaw puzzle?"). All items are specifically adapted to the activity at hand, namely playing a jigsaw puzzle. Children responded to the items using a five-point response format ranging from (1) "NO, absolutely not/two sad emoticons" to (5) "YES, absolutely/two happy emoticons". This scale had a good internal reliability (Cronbach's α = .89, *M* = 3.78, *SD* = 1.17).

Play orientation (outcome vs. process). Play orientations were measured by using two questions: "Would you play a jigsaw puzzle because you like the act of puzzling itself?" (for which higher scores specify process orientation) (*M* = 3.95, *SD* = 1.06) and "Would you play a jigsaw puzzle because you like to have a finished puzzle at the end?" (for which higher scores specify outcome orientation) (*M* = 4.07, *SD* = 1.16). Children responded to all items on a five point scale ranging from (1) "NO, absolutely not/two sad emoticons" to (5) "YES, absolutely/two happy emoticons".

4.4. Results

Following Hayes (2013) and Preacher and Hayes (2004), a parallel multiple mediation model was conducted (by means of the PROCESS "model 4" macro in SPSS (Hayes, 2013)). This enabled testing the direct and indirect effects of materialism on intrinsic play motivation through outcome and process orientations (Figure 2).

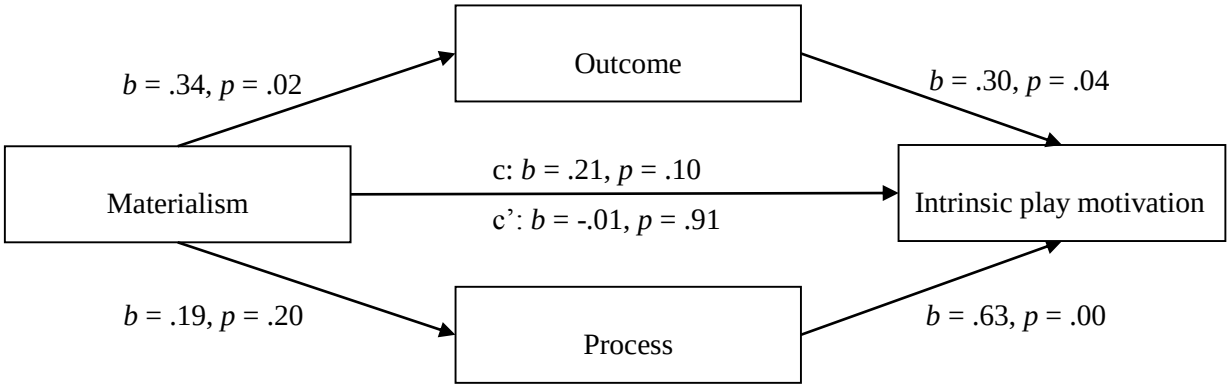

Figure 2. Parallel mediation model for the effect of materialism on intrinsic play motivation mediated by outcome and process orientation

This model demonstrates that materialism is associated with outcome orientation (R^2 = .10, $F(1,55) = 5.88$, $p < .05$; $b = .34$, $t(55) = 2.42$, $SE = .14$, $p < .05$), but not with process orientation ($R^2 = .04$, $F(1,55) = 2.05$, $p < .05$; $b = .19$, $t(55) = 1.30$, $SE = .14$, $p = .20$). Process ($b = .63$, $t(53) = 6.40$, $SE = .10$, $p < .01$) and outcome orientation ($b = .30$, $t(53) = 2.13$, SE = .14, $p < .05$) are both positively associated with intrinsic play motivation while the direct effect of materialism on intrinsic motivation is not significant ($b = -.01$, $t(55) = -.12$, $SE = .11$, $p = .91$) ($R^2 = .53$, $F(3,53) = 36.74$, $p < .01$). Results also indicate that the total effect of materialism on intrinsic motivation is not significant ($R^2 = .04$, $F(1,55) = 2.75$, $p = .10$; b = .21, $t(55) = 1.66$, $SE = .12$, $p = .10$)

The indirect effects were subjected to follow-up bootstrap analyses with 5000 bootstrap samples and 95% bias corrected confidence intervals. The predicted total indirect effect of materialism on intrinsic play motivation through both mediators (outcome and process orientations) was supported. This indirect effect was statistically different from zero, as evidenced by a 95% bias-corrected bootstrap confidence interval ($ab = .22$, $SE = .12$, 95% CI from .02 to .48). The indirect effect of materialism on intrinsic play motivation via outcome was statistically different from zero (materialism → outcome → intrinsic motivation) (ab = .10, $SE = .07$, 95% CI from .01 to .28), whereas the indirect effect of materialism on intrinsic play motivation via process motivation was not (materialism → process → intrinsic motivation) ($ab = .12$, $SE = .09$, 95% CI from -.03 to .32). All reported effects remain when controlling for gender and age.

4.5. Discussion

Results indicate that intrinsic play motivation is positively related to both outcome and process orientation. Study 1, in which we found that materialism is positively related to outcome orientation, is replicated, but we also show that this results in more intrinsic motivation for the play activity. This is congruent with Ryan and Deci (2000), who argue that intrinsic play motivation may not necessarily differ in level (ranging from low to high motivation), but in kind of motivation (namely levels of process and outcome orientation). Outcome and process are both intrinsically motivated, which also means that even though one child can play because of the end-result of an activity, the child can find it equally interesting and enjoyable than another child who plays because of the process of playing itself. This result also suggests that process motivations are not necessarily the only types of play motivations that are linked to intrinsic play motivations and beneficial.

Results indicate indirect mediation (Zhao, Lynch, & Chen, 2010) of materialism on intrinsic play motivation via outcome goals. We also see that the direct effect of materialism on intrinsic play motivation –when controlling for the indirect effect- is not significant, suggesting an "indirect only" model. This is related to similar findings of Millar and Thomas (2009), who showed that materialism had no impact on the level of happiness retrieved from experiential purchases, such as discretionary activities. In their studies, high as well as low materialists associated experiential purchases with high levels of happiness.

5. Study 3

To further explore the impact of outcome orientation on the relation between materialism and intrinsic play motivation, a study is set up in which two types of outcome are put forward: a perfect and an imperfect outcome. In the introduction, we hypothesized that the level of perfection of an outcome would moderate the relation between materialism and intrinsic motivation. Study 3 tests this hypothesis and examines if materialistic children especially prefer perfect outcomes over imperfect ones or whether they retrieve intrinsic motivation from end-states of play activities regardless of their level of perfection and whether this outcome is objectively seen as more or less "perfect". Likewise, we examine if less materialistic children differentiate between the level of perfection of an outcome and retrieve more intrinsic play motivation from imperfect than perfect outcomes or if they see any type of outcome as detrimental for their motivation (given that they are outcome-averse).

5.1. Participants

Participants were 107 children between 8 and 12 years old (M_{age} = 10; SD_{age} = .99, 65 % girls) who attended a holiday camp. They all lived in the region of Flanders, Belgium and had the same mother tongue (Dutch). Recruitment was done at a camp site in the Easter holidays (April) and in the summer holidays (July) of the same year. Parents were approached when they inscribed their child to the camp at the first camp day. Children only participated in the study after parents gave their written consent and after they were briefed about the study.

5.2. Method

Similar to the previous studies, children were interviewed in a separate location, without parents, teachers or camp leaders present. Children also filled out other measures, which were not used in this paper (Appendix A), but served as filler items for the measures used in this

paper. Small groups of maximum four children were seated together to fill out the questionnaire, whereas the playing part was always done separately, without any peers watching. Children received a paper-and-pencil questionnaire, were briefed about the study and then filled out demographic questions, such as gender and age. Children were asked to play with a jigsaw puzzle and completed questions about their intrinsic motivation for this jigsaw puzzle and a materialism scale. The children were then debriefed, asked not to talk about the study to their peers and compensated with a small reward in return for their participation. The interviewer recorded the time spent on the jigsaw puzzle, but made sure children were unaware of any time restrictions while performing the puzzle task.

5.3. Measures

To manipulate the ***type of outcome*** (perfect vs. imperfect), for half of the participants (N = 54, 51%) the jigsaw puzzle that was provided had an imperfect outcome and had three prominent pieces missing, while for the other half, the jigsaw puzzle was presented with all of the required pieces, representing the perfect outcome condition. Children received the jigsaw puzzle in the original box, which also had a picture of the puzzle on the cover. The interviewer also recorded how long children played with the jigsaw puzzle (*Range* 4-29 minutes, M = 12:13, SD = 05:22).

Intrinsic motivation and materialism. Participants completed the same measures for intrinsic motivation (Cronbach's α = .86, M = 3.94, SD = 0.82) and materialism (Cronbach's α = .72, M = 1.84, SD = 0.66) as the ones that were used in study 2, with the same items.

5.4. Results

A linear regression was run with the level of materialism (centered) and the type of outcome (dummy coded, where "1" was the condition in which the jigsaw puzzle had a perfect outcome and "0" was the condition in which the jigsaw puzzle had an imperfect outcome) as independent variables and intrinsic play motivation as the dependent variable (R^2 = .25, $R^2_{Adjusted}$ = .05, $F(2, 100) = 3.42$, $p < .05$).

The results first reveal that there is no significant main effect of materialism on intrinsic play motivation (b = -.11, β = -.09, SE = .12, $t(102)$ = - 0.90, p = .37). There is, however, a significant main effect of the type of outcome on intrinsic play motivation (b = -.38, β = -.24, SE = .16, $t(102)$ = -2.43, $p < .05$), such that children who were presented with a jigsaw puzzle

with a perfect outcome possibility had lower levels of intrinsic motivation than children who were presented with a jigsaw puzzle with an imperfect outcome possibility, regardless of the level of materialism.

In a second step of our model, the interaction between materialism and the type of outcome was added (R^2 = .32, $R^2_{Adjusted}$ = .07, F (3, 99) = 3.71, p < .05). Consistent with our expectations, there was a significant interaction effect between materialism and the type of outcome of the play activity and scores on intrinsic play motivation (b = .49, β = .28, SE = .24, t(102) = 2.02, p < .05), as depicted in Figure 3. When the jigsaw puzzle has a perfect outcome, there is no effect of materialism on intrinsic play motivation (b = .12, β = .09, SE = .17, t(102) = .71, p = .48). When the jigsaw puzzle has an imperfect outcome however, there is a negative effect of materialism on intrinsic play motivation (b = -.37, β = -.29, SE = .18, t(102) = -2.10, p < .05).

Results show that for children with low levels of materialism (represented in figure 3 as the mean minus one standard deviation), more intrinsic motivation is derived from the imperfect than the perfect outcome (b = -.70, β = -.43, SE = .22, t(99) = -3.17, p < .01), as is the case for children who reported mean levels of materialism (represented in figure 3 as the mean) (b = -.38, β = -.24, SE = .16, t(99) = -2.47, p < .05). Materialistic children (represented in figure 3 as the mean plus one standard deviation) on the other hand show no differences in motivation when the activity has a perfect or imperfect outcome (b = -.07, β = -.04, SE = .22, t(99) = -.31, p = .76). Children with low and mean materialism levels are therefore especially intrinsically motivated when the jigsaw puzzle has an imperfect outcome. All reported effects remain similar when controlling for gender, age and time spent on the jigsaw puzzle.

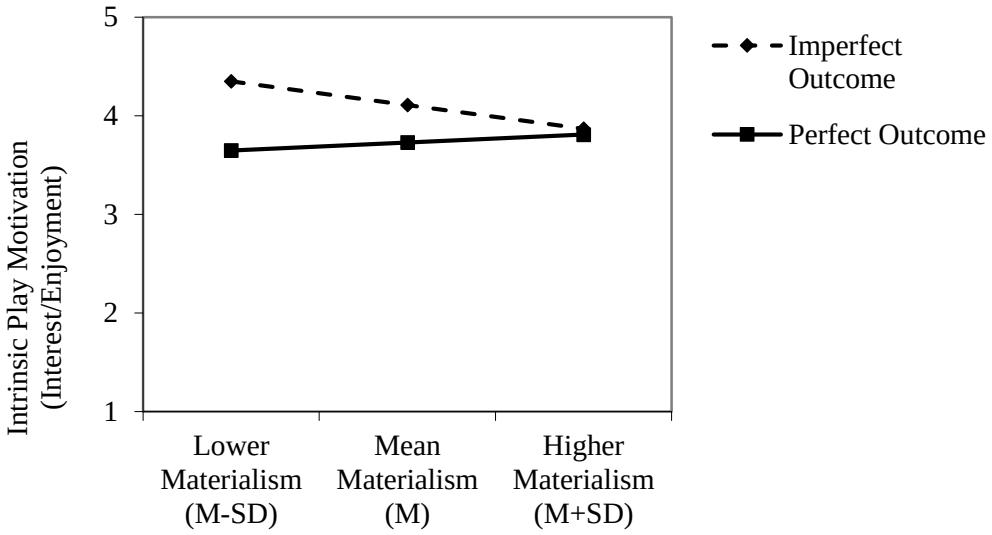

Figure 3. Moderating effect of the type of outcome of a play activity on the relation between materialism and intrinsic play motivation

5.5. Discussion

Study 3 first shows that overall, children actually value the inability to reach a perfect outcome, since overall intrinsic play motivation is positively correlated with an imperfect (vs. perfect) outcome. The type of outcome is therefore of importance for determining the level of intrinsic motivation that play activities engender.

Also, although there was no significant main effect of materialism on intrinsic play motivation (which is consistent with the lack of a direct effect in study 2), a moderation analysis revealed that this lack of direct relation between both is dependent on the type of outcome that is achieved in a play activity and is only missing when children are in the position where they are able to reach a perfect outcome. Both materialistic and less materialistic children retrieve some kind of -and a similar level of- intrinsic motivation from perfect outcomes in a play activity. When the outcome is imperfect, however, we do find differences. In that case, materialism has a negative effect on intrinsic motivation. When this is compared with the results found in study 2, we can say that even though materialism has a positive indirect effect on intrinsic motivation through outcome motivation to play in general, study 3 adds that when the outcome of a specific play activity is imperfect, materialism negatively affects intrinsic motivation, since materialistic children derive less enjoyment from the play activity with an imperfect outcome than less materialistic children do. Materialists

might retrieve less intrinsic motivation from an imperfect outcome than less materialistic children would, because less materialistic children generally dislike play outcomes.

For materialistic children, any given outcome might be perceived as an outcome that stimulates enjoyment. Materialistic children are after all outcome oriented, so they might be satisfied with either what kind of outcome and end-state, as long as there is an outcome and as long as the activity can reach its end-point.

Less materialistic children, however, are more intrinsically motivated when playing an activity with an imperfect vs. a perfect outcome. They especially value outcomes that are imperfect, possibly because these outcomes entail some kind of ongoing enjoyment and interest. If we reconsider the definition of outcome orientation, being less outcome oriented can also mean that children play because they do not want to reach an outcome. Possibly, the aversion for play outcomes is stronger than we imagine and possibly, less materialistic children are "outcome-averse" instead of the milder form of being "not outcome oriented". Perhaps this aversion for reaching outcomes also results in the idea that they are the ones that particularly differentiate between the types of outcomes that are included in a play activity. Perhaps they are deriving most motivation from the imperfect outcome, because they see it less as an outcome than the perfect condition. A perfect outcome can be perceived by them as an interruption in itself, since it also renders them with a sudden end of their play activity. Perfect outcomes are maybe definite in nature and perhaps an imperfect outcome is seen as an opportunity to keep the game going, and transform the imperfection of this "outcome" in an ongoing state of the play activity.

6. General discussion

There has been a rising concern about increasing materialistic values in young people (Chaplin & John, 2007; Twenge et al., 2010), especially since materialism has been related to negatively perceived life consequences. We would therefore expect a large stream of research in diverse disciplines that addresses the importance of materialistic values in people's lives. However, there are some literature gaps in research in this area. To the best of the authors' knowledge, for instance, research on the effects of materialism on children's daily consumer activities has remained relatively scarce. For example, consumer research focuses intensely on acquisition activities in the consumer process, while the kinds of activities that children more often engage in, such as usage activities, are often neglected. Play is one such activity that can

be seen as a usage activity within the consumer process in which children actually "consume", use and handle products such as toys and games. The findings of this paper shed new light on this literature gap by showing that materialistic values have their reflections in play.

This paper examines the impact of materialism on children's play behavior as it identifies two specific reasons to engage in a play activity, namely process and outcome orientations. When children play process oriented, they mainly focus on the process of the activity. When children play outcome oriented, they mainly focus on reaching an outcome or result. This paper demonstrates the link between materialism and play by showing that (1) materialism relates to outcome oriented reasons to engage in a play activity, but not to process oriented play reasons, (2) both outcome and process oriented play relate to intrinsic play motivation and (3) while the type of outcome (perfect vs. imperfect) does not matter for materialistic children's intrinsic motivation, it does for less materialistic children, since they are more intrinsically motivated when the outcome of the play activity is imperfect (vs. perfect) and even more so than materialistic children.

Our paper contributes to consumer behavior and consumer psychology literature because it examines one type of consumer activity that has often been overlooked, namely play. It additionally adds to existing literature on consumer experiences, such as the study of (Dahl & Moreau, 2007; Yang et al., 2012), since it examines two types of motives, process and outcome motives that can exist in consumer activities such as play.

Our paper also adds insights in the domain of the construction of well-being and motivation. Recently, a lot of research has been interested in examining what constitutes people's well-being. Results of the paper presented here have implications for the link between well-being, materialism and play, especially since intrinsic motivation for an activity is said to correlate or even contribute to well-being (Deci & Ryan, 2000). First, intrinsic motivation is related to both outcome and process orientations in play. Both outcome and process orientation are thus contributors to intrinsic motivation, albeit through different mechanisms. Important for public policy makers and caretakers is that besides the link with materialism, outcome oriented play orientations are thus not necessarily a cause for concern. We show that outcome oriented play might also be satisfying play and that it might in fact render a child with feelings of enjoyment and interest. We do, however need to specify that these outcome orientations relate to general materialistic values, and this might be more problematic.

Second, although materialism has been seen as detrimental for well-being in most studies (Dittmar et al., 2014), there is also evidence that suggest that materialism might sometimes have short term functional benefits for some people (Rindfleisch & Burroughs, 2004), for example when materialism is used as a coping mechanism for harmful events (such as the divorce of parents) or to boost children's bruised self-esteem (Chaplin & John, 2007). We contribute to this by showing that outcome orientation mediates the indirect link between materialism and intrinsic motivation. Materialism is related to outcome orientations in children's play orientations and has an indirect positive effect on intrinsic play motivation, indicating that materialism might (at least under certain circumstances) lead to (albeit perhaps short-term) positive feelings of enjoyment.

Third, the fact that our results show that less materialistic children are more intrinsically motivated than materialistic children when the outcome of an activity is imperfect is especially interesting and intriguing because materialism in research rarely examines discrepancies between both sides of the materialism spectrum. What kinds of motives, behaviors and actions are defined as "not materialistic" is often neglected in consumer research. We show that lowly materialistic children are less focused on tangible aspects and might even value activities in which perfect outcomes cannot be reached or activities that do not render perfect end-results. Future research might put more focus on less materialistic children and on how they derive value from experiences.

As a fourth aspect regarding the link between materialism and intrinsic motivation, we can refer to the work of Rindfleisch and Burroughs (2004), who claim that there are some moderators (especially social and personal variables) to be found for the negative association between materialism and well-being. They found that for some people, the link between both is less obvious. We provide additional insight in this by demonstrating that materialism can be indirectly positively related to one aspect of well-being, namely intrinsic play motivation. This result is in fact very similar to the findings of (Millar & Thomas, 2009). They showed that materialism has no impact on the level of happiness retrieved from experiential purchases. High as well as low materialists associated experiential purchases with high levels of happiness. This might mean that for discretionary experiences, such as leisure activities, materialism might at least not be detrimental for well-being. We also show that not only social and personal variables, but also situational variables can moderate the effect, by finding that the type of outcome a play activity has, perfect or imperfect, can moderate the relation

between materialism and intrinsic motivation in such a way that less materialistic children retrieve more intrinsic motivation from imperfect play outcomes.

These results are especially important since intrinsic motivation is generally seen as the basis of high-quality learning, creativity and achievement. Intrinsic motivating therefore has a lot of benefits and is a desirable aspect of motivation. This paper specifically documents one factor that invigorates intrinsic motivation for less materialistic and materialistic children.

7. Limitations and future research

Some limitations are eminent in this paper and call for further research on this topic. For example, there is a low number of children participating in the studies, this is especially an issue in in study 2, which might explain the lack of total effect and also calls for further research to confirm these findings. Also, we have used age as a covariate in all of the studies. Yet, future studies might incorporate measures of actual development (such as cognitive skills) to be better able to examine its effects. This is interesting especially since children of similar age can also differ in the level of consumer development or consumer socialization. Children's development might also determine to what extent they for example play outcome or process oriented.

Additionally, all of the experiments discussed solitary play instead of group play, such as cooperative or associative play. We did this intentionally, because focusing on group play would have led us too far from the actual research goal (for example due to conflicting goals, social influence, etc.) (Parten, 1933; Piaget, 1962; Rubin et al., 1976). It would however be an interesting future research angle, especially because cooperative play is different from solitary play in many ways (Parten, 1933; Piaget, 1962; Rubin et al., 1983; Rubin et al., 1976). Also for outcome and process orientation this might be important. When children play together, they have to focus on mutual goals, and perhaps outcome and process goals converge in that case or cause children to have a conflict of interest. It would be interesting to examine what happens when these children are playing together.

Previous research has for example discriminated between object-oriented and people-oriented children (Jennings, 1975). Where object-oriented children were particularly interested in exploring and manipulating objects, people-oriented children were more engaged with the peer group (Jennings, 1975). When we relate this to outcome and process orientations, one could expect that outcome oriented play might be more prominent for

object-oriented children (and solitary play), whereas process orientated play might be more prominent for people oriented children, since they focus on relationships with peers.

Additionally, one of the research streams that investigates the detrimental effect of materialism on well-being is the experience recommendation (Van Boven, 2005; Van Boven, Campbell, & Gilovich, 2010; Van Boven & Gilovich, 2003), which for example states that people who spend their money on material objects are worse off than people who spend money on experiences (Van Boven, 2005). One of the arguments underlying this effect is that experiences are more often shared with others and foster successful social relationships more than material purchases do (Van Boven, 2005). Future research could establish if the experience recommendation theory also fits with our findings. One could argue that process orientation is more related to experiential elements of the experience. Since process orientation was unrelated to materialism, it might also be more suited to be shared with others. Since outcome orientation is focused on objects and end-states of play and is related to materialism, outcome orientation might also be less experiential, making it perhaps less suitable for cooperative play and social interactions?

Another limitation is that although study 2 did not show a direct relation between materialism and intrinsic play motives, we can see from study 3 that there is a negative relation for imperfect play activities. Since children had to imagine playing a jigsaw puzzle in study 2, we cannot give any inferences about the kind of activities they had in mind in this study. Possibly, they were more likely to think of finished activities that happened in the past, hence explaining the null-effect. Further evidence is needed however to demonstrate evidence for this.

It is also important to acknowledge that our operationalization of outcome and process orientation is a first attempt to categorize these kinds of orientations. It should be further refined in future studies. For example, to obtain conceptual clarity, we did not include externally motivated outcomes in the definition of outcome orientation (such as winning a medal, winning against others, …). Future research could examine to what extent outcome and process orientation would apply to these kinds of outcomes. Especially since previous research indicates that extrinsic motivations, such as rewards, are often detrimental for well-being and motivation (Deci et al., 2001), they might be particularly detrimental for play motivation too.

Intrinsic motivation was measured after playing in both study 2 and 3, but one might wonder if intrinsic motivation during the activity is different from the reported intrinsic motivation after the activity. Future research could establish how children's materialism affects intrinsic motivation for play activities that are not final and for which motivation during an activity is measured.

An alternative explanation for the results in study 3 can also be at play, which might benefit from further research. Firstly, the effects found in study 3 might be due to the relatively low mean level of materialism (M = 1.84, SD = 0.66, measured on a 5-point scale) in that particular sample, remarkably lower even than in the other two studies. Future research could establish if even higher levels of materialism cause children to derive more intrinsic motivation from perfect outcomes than imperfect ones (and therefore add an extra part to the figure, where our current "high materialism" point would become the mid-point).

Secondly, an imperfect outcome might not have been all too stressful for materialistic children, since the jigsaw puzzle children played with did not belong to the child, but to the experimenter. Children were hence unable and not allowed to actually "possess" or "have" the outcome of the play activity. Perhaps a situation in which the end-result of the game is in fact acquired by materialistic children could cause differences in intrinsic motivation. The ownership of a game can also be of importance in light of this remark.

We should also acknowledge that the outcome manipulation of the third study can merit further examination. For example, when pieces of a jigsaw puzzle are missing, children might think that a previous participating child lost those pieces, which could therefore evoke a feeling of "contamination", which is not the case for the perfect outcome condition.

Regarding the literature on experiences in consumer behavior, we can also suggest that it would be worthwhile to further investigate imperfect experiences. A lot of research about the experience recommendation looks at experiences that took place in the past and focused on positive and negative outcomes of these experiences. Nicolao et al. (2009) showed that, in general, people are most likely to obtain happiness through experiential purchases that turn out well (instead of material purchases or purchases with a negative outcome). Future research could examine why this is different for play activities (since children are more intrinsically motivated by imperfect outcomes in study 3). Since our results show that most intrinsic motivation is derived by less materialistic people from imperfect outcomes of play

activities and since intrinsic motivation is related to happiness, future research might examine if the valence of a past activity is different for materialistic versus less materialistic people. Perhaps lowly materialistic people don't see an activity with an imperfect outcome as a negative experience or perhaps lowly materialistic people even see an activity with a perfect outcome as more negative than materialistic people.

Future research could also examine the extent to which less materialistic people can enduringly tolerate imperfect activities. Is there a point at which they get frustrated by not achieving the perfect outcome? And does their elevated intrinsic motivation last – or does it deteriorate after a while?

Implications of our results can be expanded to several areas other than play behavior. Play behavior can be seen as a consumer behavior, making these findings applicable to, for example, product preferences, advertising and communications. If we take product preferences into consideration as an example, we can argue that the reasons to play might affect the selection of and product preferences for toys and games that have characteristics matching the proposed play orientations. For example; toys and games that are especially process oriented and envision no clear outcome or where the end result is up to the interpretation of the child, versus toys and games where a clear end-result has to be made. Play activities where the process (vs. outcome) is more important might attract less (vs. more) materialistic children (as in congruence with their reason to choose a game). For the effect on marketing communications as another example, exposure to advertising of one specific play activity might induce short-term motivations to play in a certain way with that product. Moreover, less materialistic children might prefer communications that specify the enduring pleasure of a particular play activity, since we show that their intrinsic motivation is higher when a play activity is imperfect.

8. Conclusion

To conclude, this paper shows that materialism is related to children's play behavior. Surprisingly little is known about how children's reasons and motives for daily behavior can be linked to general materialism levels. This paper goes beyond the examination of intentions (such as play intentions, parental requests), but also includes actual behavior. This approach is often overlooked, but can provide some important insights that are more in line with children's lives and behavior. Children are after all rarely the decision makers in a household

but they do use the products that are bought and they can have a major influence on parental decisions, so we have a lot to learn from their contact points with consumption.

Our findings also provide additional insights for caretakers. They provide more insights in how children get motivated by playing and how materialism can be demonstrated in play. Also, in real life, activities also do not always bring about the expected outcome, and children don't always have the opportunity to get what they want in general. Our results at least suggest that less materialistic people are better capable of deriving intrinsic motivation from these kinds of outcomes than materialistic people are, and that less materialistic children even derive more pleasure from imperfect outcomes than from perfect ones. Some current popular practices might therefore be questioned. For example, perhaps when children play, caretakers should not in se see it as a bad thing when children are inclined to leave play activities lying around for a while, make mistakes, or even postpone the completion of a certain activity, since less materialistic children might be more motivated by doing so.

Research on the specific impact of materialism on children's daily behavior, on children's choices and behavior is important for caretakers, parents, educators, and public policy officials, as it could give them the opportunity to help reduce harmful effects of materialism on children. This is especially important since materialism is such a big concern in our current society. Our results suggest that materialism has consequences on people's motives from an early age on and affects a diverse range of behaviors, such as play. Since children are only starting to learn how to behave as a consumer in the market place, we might also wonder what effects this has later on in life.

9. Appendix A. Scales used in studies chapter II

9.1. Scales study 1

This experiment was part of a larger study in which children also completed other tests. These additional tests are not included in the current paper, but served as filler items for our study – and for example made sure that there was enough time between the materialism scale and the play orientation questions so both could not have an effect on each other. Children for example completed questions about their general play behavior (how much toys they think they have, what their favorite toys are, attitudes towards play activities etc.). They also completed a creativity test, which was measured with three different creativity tasks: (1) an "unusual uses" test and (2) "a product improvement test", both adapted from the Torrance Test of Creative Thinking (Torrance, 1966), and (3) the Remote Associations Test of (Mednick, 1962)[1]. We also included the Rosenberg self-esteem scale (Rosenberg, 1965), the "general self-worth" subscale of Harter's Self-Perception Profile for Adolescents (Harter, 1988) and a Lego-task in this questionnaire. For the coloring task, additional measures were also included (e.g., how long children thought they had colored, if they colored this picture before, whether they would choose the same picture if they were allowed to do the activity again, how well they thought they colored, which rules were in this play activity etc.).

Materialism

- Do you think it is important to have a lot of money?
- Do you think it is important to have a lot of stuff?
- Would you like it if you could buy expensive stuff?
- Do you want to earn a lot of money when you grow up?
- Would you like to have more money to buy things for yourself?
- Do you like to think about all the stuff you have?

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[1] Results of the creativity tests are published as: "Van de Sompel, D., Vermeir, I., & Pandelaere, M. (2012). Gender Differences in Children's Creativity and Play Behavior. In S. P. McGeown (Ed.), *Psychology of gender differences* (pp. 59-76). New York: Nova Science Publishers."

- Do you like kids that have very special games or clothes?
- Do you like to buy things your friends have?

Excluded due to low reliability:

- Do you rather not share your stuff if it means you'll have less left for yourself?
- Do you enjoy shopping?

This scale was measured on a five-point scale ranging from (1) "NO, absolutely not" to (5) "YES, absolutely".

Play orientation

"What defines best why you decided to color this/draw?"

- Because I really liked the picture itself (outcome)
- Because I really liked the act of coloring this picture/drawing (process).

9.2. Scales study 2

Also for this experiment, children completed some other tests that are not included in the current paper but were included for other projects, for example additional questions about jigsaw puzzling (e.g., how much children liked to puzzle in general, which rules they thought puzzling had), questions regarding replicating and originating play, play attitudes, measures for other games such as their favorite game, dressing up etc. We also included a one-item happiness measure, questions about self-regulatory focus and the "general self-worth" subscale of Harter's Self-Perception Profile for Adolescents (Harter, 1988) in this questionnaire. Additionally, we included the aspiration index (Kasser & Ryan, 1996) which measures intrinsic and extrinsic life goals but did not incorporate it in this version of the paper because extrinsic goals and materialism correlated highly.

Materialism

- Do you think it is important to have a lot of money?
- Do you think it is important to have a lot of stuff?

This scale was measured on a five-point scale ranging from (1) “NO, absolutely not” to (5) “YES, absolutely”.

Intrinsic motivation (Interest/Enjoyment)

- Do you think playing a jigsaw puzzle is boring? (R)
- Do you think playing a jigsaw puzzle is fun?
- Do you feel good while playing a jigsaw puzzle?

This scale was measured on a five-point scale ranging from (1) “NO, absolutely not/two sad emoticons” to (5) “YES, absolutely/two happy emoticons”.

Play orientation

- Would you play a jigsaw puzzle because you like the act of puzzling itself? (process)
- Would you play a jigsaw puzzle because you like to have a finished puzzle at the end? (outcome)

This scale was measured on a five point scale ranging from (1) “NO, absolutely not/two sad emoticons” to (5) “YES, absolutely/two happy emoticons”.

9.3. Scales study 3

This experiment was part of a larger study in which children also completed other tests. These additional tests are not included in the current paper, but served as filler items for our study. The questionnaire included a one-item happiness measure, the “general self-worth” subscale of Harter’s Self-Perception Profile for Adolescents (Harter, 1988), the aspiration index (Kasser & Ryan, 1996) which measures intrinsic and extrinsic life goals, additional questions about the jigsaw puzzling task (e.g., how long they believed they were playing, how difficult they thought it was).

Materialism

- Do you think it is important to have a lot of money?
- Do you think it is important to have a lot of stuff?

This scale was measured on a five-point scale ranging from (1) “NO, absolutely not” to (5) “YES, absolutely”.

Intrinsic motivation (Interest/Enjoyment)

- Do you think playing a jigsaw puzzle is boring? (R)
- Do you think playing a jigsaw puzzle is fun?
- Do you feel good while playing a jigsaw puzzle?

This scale was measured on a five-point scale ranging from (1) “NO, absolutely not/two sad emoticons” to (5) “YES, absolutely/two happy emoticons”.

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CHAPTER III
PLAYING BY THE BOOK OR NOT? DETERMINANTS FOR REPLICATING AND ORIGINATING PLAY BEHAVIOR

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1. Theoretical Background

1.1. Introduction

When children play, they can choose from a vast range of products, games, play methods etc. For example, they have the option to use how-to manuals, instructions and building examples that accompany games such as construction sets, but they can also create something by means of their own imagination -regardless of any instructions. For example, Lego puts toys on the market in the form of building boxes that include detailed plans and descriptions of how children can make a beauty salon, space-ship, adventure tree house, fire station and even a "heartlake cupcake café", but they also make brick boxes that consist of several unsorted bricks and call them their "creative building sets, that will encourage open-ended building play, and inspire any imagination and creativity." (LEGO® Classic product website, 2016). A similar duality is found in other play activities. One can for example paint something from the mind on a blank page, but one can also paint by using a paint-by-numbers kit. By doing so, these toys makers emphasize two types of play, one play type in which imitation is prominent and one play type in which creativity and fantasy is prominent. Although both types of play behavior are already used a lot in practice, they have less often been explicitly theoretically distinguished in academic literature. This chapter therefore develops a typology of two types of play behavior that explicitly reflect these examples, and will label them replicating and originating play.

Although we believe both types of play can be of importance, as they both seem to relate to different developmental processes as described in literature, namely replication and reproduction on the one hand (Jones, 2007; Paulus, Hunnius, Vissers, & Bekkering, 2011; Piaget, 1962; Saito, Hayashi, Takeshita, & Matsuzawa, 2014) and processes of creativity and imagination on the other hand (Piaget, 1962; Vygotsky, 2004; Ward, 1994) and although

people generally agree that play is beneficial for a child's development in many of the forms it comes in, sometimes, certain types of play are more preferred that other types. Research for example suggests that in some schools, restricted forms of creativity and play (which resemble to replicating play) are promoted, while unstructured and free play (which resemble to originating play) is limited (Bodrova, 2008). Other studies argue that some teachers advocate a "schooled" version of creativity (Myhill & Wilson, 2013), in which the teacher's vision on creativity is assumed to be correct. Despite the idea that both types are thus of importance, we can also see that they are not always equally stimulated in each environment.

This can have important consequences, since previous studies have shown that some places can contribute to children's development, because they provide ways in which a child can develop and explore (Wilson, 1997) but suggest that environments can stimulate cognitive procedures that can encourage or discourage creativity (Steidle & Werth, 2013; Vischer, 2007). This would mean that cognitive processes underlying originating and replicating play can be triggered by some environmental cues. The places children are in might therefore have an important impact on how children play and whether they choose to play replicating or originating.

The goal of this paper is to provide more insights in these questions. We specifically want to examine which determinants and situations stimulate children to choose for play types that relate more to processes of reproduction, replication and imitation and which determinants and situations stimulate children to choose for play types related to processes of imagination and creativity. This paper therefore proposes and test a definition for replicating and originating play (study 1), examines if certain situations and places actually do stimulate the choice for either one of these play types (study 1 and 2) and explores with a qualitative study the determinants for engaging in these types of play and shows how some of these determinants converge in particular situations (study 3).

1.2. Importance of play

Previous studies show that, beyond school activities, children of 6 to 8 years old have on average 11:55 hours per week available for playing and children of 9 to 12 years old have 8:50 hours of play time (Hofferth & Sandberg, 2001). Other authors found that play can account for 1.5 to 3.0 hours per day in the elementary years (Larson, 2001), and that children between 1 and 8 years old spend approximately 20% of their waking time on play when they

are at home (Giddings & Halverson, 1981). It therefore comes as no surprise that some authors refer to play as the primary occupation in childhood (Stagnitti & Unsworth, 2000). Considering that children spend so much time on play, the extent to which play is important in a child's life has been a topic of interest for many years.

Some authors argue that play reflects children's current cognitive developmental phase (Barnett, 2013; Piaget, 1951, 1954). Piaget (1951, 1954) for example, reasons that by playing, children are trying to understand the world around them, which can only happen by employing the cognitive capacities they have at that point of time. Others believe that play is more than a mere reflection of child's current development, but also a way to develop in the future, and agree that play has important developmental benefits (Messier, Ferland, & Majnemer, 2008; Milteer & Ginsburg, 2012; Vygotsky, 1978). Others highlight that play provides immediate, instead of delayed, benefits for childhood. They reason that play is not necessarily causally responsible for better development, but that both play and development are mutually dependent and influencing (Pellegrini & Smith, 1998).

Despite different views on the relation between play and development, authors do agree that play is correlated to several rewards throughout the lifespan (Eberle, 2014). The examination of play in diverse academic disciplines, such as neuroscience, ethnography, psychology and pediatrics (Lester & Russell, 2008), suggest interconnectedness between play and specific aspects of development in for example enculturation, learning, brain development, emotion regulation, socialization etc. (Lester & Russell, 2008; Milteer & Ginsburg, 2012). Play is consequently associated with children's development in physical, cognitive, as well as social and emotional domains. In what follows, we will discuss two ways in which children can develop through play: by replicating and reproducing and by using imagination and creativity.

1.3. Development of reproduction and imagination

One of the ways in which development and play are associated is by the process of gaining knowledge by using *imitation, rule following and reproduction*. In general, the processes children undertake when learning new kinds of behavior have been described in Karmiloff-Smith's (1992) theory of representational redescription. This theory states that when children encounter a new problem, they have no previously existing knowledge about it. They must therefore rely on information coming from the outside of the self. They first start

by retrieving external information, for example by copying another person, observing behavior and imitating actions, imitating non-verbal expressions or by learning from tools, instructions, models, tutorials, etc. Imitating a model also means that children confine themselves to certain boundaries imposed by copying the model. They restrict themselves in a certain way. In a next phase, when children are more familiar with the problem, they can rely on these learned schemas, models and knowledge.

When children imitate a model, such as an object, another person, or tools, they can do it to understand how things work, to practice and develop their skills, to understand other people's behavior and intentions and to learn in general (Jones, 2007; Meltzoff, 1988; Piaget, 1951). Reproduction and imitation is therefore an important part of gaining knowledge and an essential skill developed during childhood, because it provides children with important socialization abilities, cultural knowledge, skill sets etc. (Jones, 2007; Paulus et al., 2011; Piaget, 1951). Playing is one type of behavior in which children can express reproducing, imitating and rule following, since play enables children to develop and practice these skills (Vygotsky, 1978).

Another way in which development and play are associated is by the process of *creativity and imagination*. The process of developing imagination, creativity and fantasy develops early in a child's life (Kaufman & Beghetto, 2009; Piaget, 1962; Runco, 2014). Previous research showed that diverse forms of imagination and creativity can influence the development of children. Russ, Robins, and Christiano (1999), for example, argued that the quality of children's fantasy correlates to divergent thinking abilities, an important skill later in life. Others, such as Piaget (1951) reason that imagination can represent a detachment from reality, and is beneficial because it can therefore free the child from internal tensions and frustrations. Additionally, some authors indicate that make-believe play, an expression of a child's fantasy, is a contributor to the development of self-regulation (Berk, Mann, & Ogan, 2006).

Literature on children's development often links imagination and creativity to play. Russ and Wallace (2013), for example, state that pretend play facilitates children's development of cognitive, affective and interpersonal processes, which are all important for creativity. Creativity and imagination can occur in everyday behavior and are also observable in children's behavior (Kaufman & Beghetto, 2009), for example when children come up with a new method do something or when they recombine elements into new configurations (Russ

& Dillon, 2011). Play can offer a way to safely experiment with unexpected, new circumstances and can help in inventing ways in which these can be resolved (Pellegrini, 2007). When children use their imagination while playing, they are flexible and can design situations in which the outcome is different from reality (Vygotsky, 1976). Hence, they learn how new situations can be handled by responding with novel and adaptive instead of narrow and logical thinking (Lester & Russell, 2008).

1.4. Play typologies including reproduction and imagination

Despite the fact that academic research has theoretically discussed reproducing, following rules or imitating on the one hand and creativity and imagination on the other hand (Singer, 1994; Vygotsky, 2004), little work has empirically examined play typologies that relate to these aspects of children's development. Since previous research showed that playing can be seen as a way to express reproducing, imitating and rule following, but also to learn about new situations and flexible thought, this paper proposes that both developmental skills have a counterpart in children's play behavior.

To get a better understanding of how reproduction and imagination can be integrated in play literature, we need to take a step back to have a look at the definition of play. This is not an easy task, since play is generally seen as a concept that is difficult to define (Eberle, 2014), ambiguous and has been conceptualized in different ways throughout history. Apart from the general acknowledgement that at its most elementary definition, play always assures that there is an element of fun, pleasure, intrinsic motivation or enjoyment (Barnett, 2013; Eberle, 2014; Garvey, 1990), different authors define play by a range of different characteristics. This is not surprising, given the fact that play behavior can range from activities such as dressing up, playing with Lego, playing hide-and-seek to crafting and playing tag or Monopoly. Play also consists of different underlying phenomena, that result in different kinds of play experiences (Johnson, Eberle, Henricks, & Kuschner, 2015). One of the best ways to define play is therefore that it is in essence undefinable and consists of multiple definitions.

Research has, however, ascribed a diverse range of characteristics to play behavior that do often emerge. Two of these characteristics are of particular importance for this paper, since they relate to the previously described processes or reproduction and imagination. First, play is often described as extra-ordinary, special and set apart from other more mainstream and "serious" activities (Burghardt, 2005; Johnson et al., 2015). Rubin, Fein, and Vandenberg

(1983) for example call play *nonliteral* in the way that it should be detached from reality and should incorporate experimentation. Imaginative and creative processes might be more related to this play characteristic than reproductive processes are, since they rely on using imagination – which might be easier in case of non-realistic, extra-ordinary play.

Second, play is also described as an activity that is repetitive (Burghardt, 2005), since it can often be *repeatedly* performed. Some authors also describe this characteristic by arguing that play is an activity where *rules* are important (Huizinga, 1955). They see rules as important not just for organizing games and making them fair, but because they keep games interesting and keep games going. The previously described reproductive processes might be more linked to the repetitive component of play, since they rely on using reproductive skills and repetition – which might make rules more suitable.

There is also other evidence to be found in literature that relates to the previously described distinction in the processes of imagination and reproduction. For instance, a wide array of different play typologies exist in literature, among which for example the classification into functional play, constructive play, games with rules, and dramatic play (Smilansky, 1968; Smilansky & Shefatya, 1990). These play types are specifically interesting for the previous distinction. Dramatic play is described as a play form in which children construct imaginary situations and is seen when children try to understand their environment and begin to imitate what they see in play, for example by role play. This play form is also sometimes referred to as pretend play, in which children simulate real-life activities. Some authors suggest that this is a play form that can be linked to imitation and reproduction, because children re-enact certain situations (Bergen, 1998) but we can also see that imagination and creativity must be present for dramatic play. Constructive play on the other hand is often seen as play in which children are creating something by means of construction - for example by using building blocks or construction materials. Literature also often refers to "games with rules", to describe play in which children play with toys and games that incorporate rules (Pellegrini, 2004; Piaget, 1951; Smilansky, 1968). These are toys and games that incorporate specific restrictions the child must adhere to (for example a card game with rules). When children learn how to play games with rules, they learn to understand how to adhere to and follow rules.

Unfortunately, these typologies do not incorporate the idea that one type of toy or play activity can be performed in different ways. For example, games with rules can possibly be

played with in two ways: children can choose to adhere to these rules as intended by the game (which would relate more to replicating and reproductive processes) or they could play these games and make up their own rules (which would relate to imaginative and creative processes). In dramatic play, children can re-enact a story that they saw on television (reproductive) or they could make a role-play from their own imagination and create their own script (imagination). For construction play, children can play with building sets by reproducing the example from the booklet (reproductive) or they could create their own idea (imagination).

Another similarity is found in the typology that distinguishes flexible or unstructured and highly structured play. Unstructured and free play is hereby mostly related to creativity, since it generates more original thinking (Berretta & Privette, 1990; Trevlas, Matsouka, & Zachopoulou, 2003). This typology, however, does not incorporate the existence of imitation or reproduction but specifically focuses on the organization of the play activity.

Few indications exist in previous literature of a simultaneous examination of both reproduction and imagination in play. Vygotsky (2004) depicted reproduction or imitation as a counterpart of creative activity and called activities creative when they did not result in the reproduction of previously experienced impressions or actions but in the creation of new ones. Dahl and Moreau (2007) opposed constrained vs. non-constrained creative experiences, differing in the extent to which they entail explicit constraints in either the process (e.g., a set of instructions) or the outcome (e.g., a visual representation of the end product).

1.5. Replicating and originating play

Although several theoretical frameworks discuss the processes of reproducing, following rules or imitating and creativity and imagination as important aspects of play behavior, our paper specifically elaborates on this by developing a typology of two types of play behavior stemming from these processes. This paper empirically examines whether these two types of play exist and shows when and why children choose for these types of play behavior, for example due to situational differences. We state that children can use toys (e.g., a Lego construction set) by means of a higher reliance on imagination and less adherence to rules and guidelines (e.g., building self-invented constructions) or by less reliance on imagination and more adherence to rules and guidelines (e.g., rebuilding a given model). We consequently construct a play typology that consists of a continuum between these two

processes, in which children engage in activities that are either characterized by a higher reliance of either one of the two types of processes.

The first type of play that is part of this continuum relates to reproduction, following rules and imitation. When children imitate a stimulus from a model, some of this behavior can be seen as a constricted form of knowledge transfer. This model becomes the focal point of attention and children confine themselves to a certain restriction, or certain rule, as to how they will perform the behavior themselves. The play type derived from these developmental abilities will be labeled *replicating play behavior*. When children play replicating, they use given models, rules, guidelines and examples to reach an intended result. Replicating play behavior arises, for example, when children rebuild a given Lego construction model, when they build upon existing stories in role play (for example movie scripts), when they play with iron-on-beads by following a template, when they sew a doll with a pattern found online etc. We therefore define replicating play as follows:

Replicating play behavior is defined as play behavior in which the player uses given models, rules, instructions, tutorials and guidelines that s/he did not create from his/her own mind.

The second type of play proposed in this paper relates to children's use of creativity and imagination. Previous literature shows that through play, children can express creativity and imagination (Singer, 1994; Vygotsky, 2004) and that creativity facilitates the production of original content relevant to a particular task (Lillard et al., 2013). The play type derived from these elements of creativity and imagination will be labeled *originating play behavior*. When children engage in originating play behavior they create something from the mind, think more freely about how they will play, are less restricted by given rules and models and play without rules, instructions, tutorials, guidelines and models. Originating play arises, for example, when children make a self-invented structure from a Lego construction set, when they create new scripts or new characters in role play, when they play with iron-on-beads without using a template, when they sew a doll without using a pattern etc. We therefore define originating play as follows:

Originating play behavior is defined as play behavior in which the player plays without models, rules, instructions, tutorials and guidelines and relies on what s/he can create from his/her own mind.

We argue that originating play might be more related to the previously described play characteristic that called play extra-ordinary and non-literal, since we define it as being linked to a deviation from existing preset toys and examples. Replicating play might be more related to the previously described play characteristic that entailed that play is repetitive and rule-bound, since we defined this play type as reliant on using predefined models and instructions. If our described play continuum proves to be valid, this would mean that non-literality and repetitiveness should not necessarily simultaneously be incorporated in a behavior before it can be labeled as "play", but rather that they are both parts of a continuum that are either more or either less exhibited in particular types of play.

This paper will focus primarily on solitary play. Solitary play is the kind of play that progresses early on in a child's life and is therefore well developed (Piaget, 1962). It is also quite common during free play (25–45% of the time) in early childhood (Coplan, 2000; Coplan, Gavinski-Molina, Lagace-Seguin, & Wichmann, 2001). The inclusion of group play would be interesting, but it would reach too far, since group play comprises many facets that could dilute results. Group play for instance exists of many different forms, such as for example cooperative and associative play (Parten, 1933; Piaget, 1962; Rubin et al., 1983; Rubin, Maioni, & Hornung, 1976). The type of peer (one can for example play with only one peer, or with multiple, one can play with a creative or an uncreative peer, with a peer who prefers originating or replicating, with a boys or a girl etc.), the relation with the peer (a dominant or submissive situation) and the situation in which children play with the peer (parallel, cooperative or associative play) can be different in so many ways that focusing on solitary play is a better basis to start from to examine the basic effects of replicating and originating play.

1.6. Situational effects on play behavior

It has been previously shown that the place children are in can also have an important effect on how they behave (Runco, 2014; Wilson, 1997). Wilson (1997) argued that some places can contribute to children's development, because they provide ways in which a child can develop, explore etc. One of the ways in which environments for example direct behavior is by exposing people to certain cues that trigger cognitive processes in the mind of the perceiver. Previous studies have for example shown that environments can stimulate cognitive procedures that can encourage or discourage creativity (Steidle & Werth, 2013; Vischer, 2007) and that elements in the environment can thus have an effect on the generation of new

and creative ideas. Steidle and Werth (2013) for example showed that when people work in environments in which the light is dimmed, they experience feelings of freedom from constraints, which in turn promotes creativity. Vohs, Redden, and Rahinel (2013) showed that orderly environments lead people toward tradition and convention, which impedes creativity whereas disorderly environments encourage breaking with tradition and convention, which stimulates creativity.

Since we have distilled replicating and originating play from the processes of imitation and creativity, this would mean that these cognitive processes underlying originating and replicating play can be triggered by environmental cues. The places children are in might therefore have an important impact on how they play and whether they choose to play replicating or originating. This paper therefore aims to examine to what extent situational factors might stimulate play behavior that relates more to either one of both dimensions. The environment children are in might perhaps also bring different associations with the previously discussed developments of reproduction and imitation and imagination and creativity and could have a multitude of different characteristics that might stimulate replicating or originating play.

For example, generally, at school, children have to follow a strict hourly pattern (e.g., lunch between 12 AM and 1 PM; crafts on Monday afternoon) and rules and regulations (e.g., raising hands before talking, no eating in the classroom). A general school environment might therefore be perceived as more restrictive due to its structure and rules. This relates more to repetitiveness and rule-bound behavior. Second, research suggests that teachers advocate a 'schooled' version of creativity (Myhill & Wilson, 2013), in which the teacher's vision on creativity is assumed to be correct. In some schools, restricted forms of creativity and play (which resemble to replicating play) are promoted, while unstructured and free play (which resemble to originating play) is limited (Bodrova, 2008). Nevertheless, there is also evidence that says that creativity is stimulated at school, due to the presence of peers. Previous studies found that adolescents who are perceived as creative, have a better peer status and are perceived as better social leaders (Lau, Li, & Chu, 2004; Lau & Li, 1996). This would make creativity and imagination a socially desirable behavior in schools, whereas this factor would be absent in places where children are alone or without peers, such as the home environment.

On the other hand, a study of Makhmalbaf and Do (2007) suggests that children's creative performance is higher when furniture and colors are designed according to their

needs. Yet, at home, children spend a lot of time in an environment that is essentially not designed for them (living room, kitchen) and spend less time in their own room because they are isolated there (Makhmalbaf & Do, 2007). This would suggest that the home environment is not the environment that stimulates creativity. Since each place and environment might stimulate different processes, we wonder if certain places are also more likely to generate behavior that matches (or contrasts with) cues of reproduction and imagination in that environment. This paper will specifically examine if certain environments generate different play behavior (namely either more or less related to reproduction and imagination).

To conclude, with three studies, this paper explores if replicating and originating play exist in children's play behavior and will identify determinants for choosing between them. Study 1 identifies the existence of both types of play behavior. Study 2 examines whether there are places in which one type of play behavior is chosen over the other. Study 3 examines determinants for the preference for both types of play and explores how some of these determinants converge in some environments.

2. Study 1

Study 1 examines whether (a) both types of play (replicating and originating) can be observed in actual play behavior and whether (b) children who play replicating afterwards think that they followed a lot of rules and guidelines and children who play originating think that they used their own imagination.

2.1. Participants

Participants were 60 children who lived in Flanders, Belgium and had the same mother tongue, Dutch. Convenience and snowball sampling was used to reach participants for the study. Four respondents (i.e., 6.67 % of the respondents) were removed from the analyses, because they were seven years old or younger and were unable to understand some questions. Eventually, 56 respondents between 8 and 11 years old were withheld for further analysis (M_{age} = 9; SD_{age} = 0.69, 52 % girls). Participating children were interviewed either at schools (n = 20), at a playground (n = 16) or at youth movements (n = 20), on the one hand to obtain a balanced sample, with an optimal gender mix and accounting for different cultural and ethnical backgrounds, but on the other hand to have a first impression of how play might be different at different places.

2.2. Method

Written parental consent letters were gathered before a child was allowed to participate in the study. A brief description of the study was each time given to parents. Children were also briefed at the beginning of the study and were specifically ask for their willingness to participate and told they were allowed to stop whenever they wanted. Some additional measures were also included in the questionnaire, but were not used for this specific paper (Appendix B). Children were briefed that this was not a test, but rather a questionnaire that wanted their true opinions and therefore, there were no "right" or "wrong" answers.

Children were interviewed without the presence of parents and teachers and were unable to see other children's answers, since they were placed at separate tables and out of sight of each other. They were instructed to play on their own with a Lego set, presented as "a new Lego-set, which was only recently sold in toy stores". The Lego set had the theme "The Smurfs", a popular movie at that time of which no existing Lego-material was distributed on the market. The set contained numerous Lego material and a booklet with detailed step by step descriptions to rebuild two specific models, which differed in level of difficulty. The two models were new, and composed especially for this study to rule out possible learning effects. Children were instructed to play with the Lego set as they preferred and were specifically told they could either use one of the models or they could build something different.

2.3. Measures

Play behavior (replicating vs. originating). Play was observed and coded by the interviewer using a seven-point scale ranging from "absolutely replicating" (1: the child followed one of the models completely) to "absolutely originating" (7: at no time the child used one of the models) (M = 3.98; SD = 2.45).

Play characteristics. After playing, children evaluated two questions (a) "Did you think that you had to follow the rules with this Lego?" (M = 2.68; SD = 1.21) and (b) "Did you think that you could do your own thing with this Lego?" (M = 3.94; SD = 1.11). Children rated both on a five-point scale, ranging from (1) "No, absolutely not" to (5) "Yes, absolutely".

2.4. Results

Both types of play behavior occurred, since answers on the play observation scale ranged from 1 to 7 (also the two extremes of the scale) (figure 1).

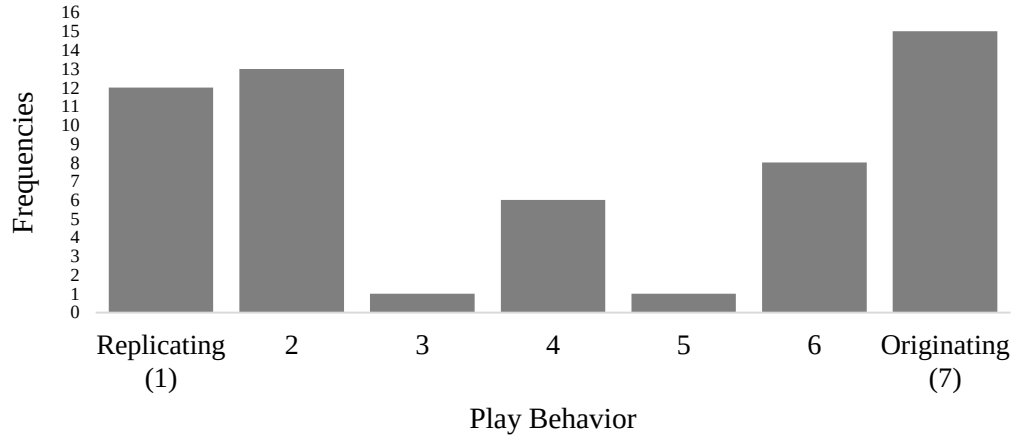

Figure 1. Frequency distribution of play observation scale

Results also indicate that children's play behavior related to the characteristics children attributed to this behavior. Play that was identified as more originating by the observer was afterwards negatively related to children's perception of "following the rules with this Lego" (R^2 = .20, $R^2_{Adjusted}$ = .19, F(1,54) = 13.82, p < .01; b = -.22, β = -.45, SE = .06, t(55) = -3.72, p < .01). Play that was identified as more originating by the observer was afterwards positively related to "doing your own thing with this Lego" (R^2 = .30, $R^2_{Adjusted}$ = .28, F(1, 52) = 21,93; b = .24, β = .55, SE = .05, t(53) = 4.68, p < .01) (and the reverse for replicating play behavior, since the scale ranged from replicating to originating). The existence of the two types of play and their associated characteristics are thus verified.

Because children were interviewed in three different places, the interview place might have impacted the results. The place was therefore dummy coded and added to the models in a next step to account for possible situational effects. Table 1 summarizes means for both play characteristics and for children's play behavior. For the model in which the type of play behavior was related to children's perception of "following the rules with this Lego", the effect of play behavior on "following the rules with this Lego" remains significant (R^2 = .21, $R^2_{Adjusted}$ = .17, ΔR^2 = .01, ΔF = .34, p = .71; F(3, 52) = 4.72; b = -.24, β = -.48, SE = .06, t(55) = -3,74, p < .01). We see no difference in the extent to which children believe they can follow more rules and guidelines when comparing the interviews that took place at the playground

vs. at the youth movement (b = -.22, β = -.08, SE = .38, t(55) = -.58, p = .56), at school vs. at the youth movement (b = .09, β = .04, SE = .39, t(55) = .25, p = .80) or at the playground vs. at school (b = -.31, β = -.12, SE = .38, t(55) = -.82, p = .42).

When examining the model in which the play behavior is related to children's perception of "doing your own thing with this Lego", results do indicate that the addition of the interview place adds marginally significant explanatory power to the model (R^2 = .37, $R^2_{Adjusted}$ = .33; ΔR^2 = .07, ΔF = 2.85, p = .07). The relation between play behavior and "doing your own thing with this Lego" remains significant (F(3, 50) = 9.73, p < .01; b = 21, β = .48, SE = .05, t(53) = 4,06, p < .01), but there is a main effect of the place on the perception that children can do their own thing. Children who were interviewed at the playground had the impression that they were less able to do their own thing in the play activity than the children who were interviewed at the youth movement (b = -.76, β = -.31, SE = .32, t(53) = -2.39, p < .05), while no differences were found when comparing the interviews that took place at school vs. at youth movement (b = -.29, β = -.13, SE = .29, t(53) = -1, p = .32) or at the playground vs. at school (b = -.47, β = -0.19, SE = .32, t(53) = -1.46, p = .15).

We also examined the effect of the interview place on the type of play behavior (replicating vs. originating). The fact that an interview was conducted at school vs. at the youth movement, did not have an impact on originating (vs. replicating) play (R^2 = .08, $R^2_{Adjusted}$ = .05, F(2, 53) = 2.42, p = .1; b = -.05, β = -.01, SE = .75, t(55) = -.07, p = .95). We did find that children who were interviewed at a playground played less originating than children who were interviewed at the youth movement (b = -1.58, β = -.29, SE = .80, t(55) = -1.97, p = .05) and also played marginally significantly less originating than children who were interviewed at school (b = -1.53, β = -.28, SE = .80, t(55) = -1.91, p = .06).

Age and gender were unrelated to any of the play characteristics (following rules, doing own thing), were also unrelated to the play behavior, nor did they affect the results when they were included as covariates in the analyses.

		M	*SD*
Following the rules with Lego	*Playground*	2.75	1.18
	School	2.70	1.03
	Youth Movement	2.60	1.43
	Total	2.68	1.21
Doing your own thing with Lego	*Playground*	3.27	1.22
	School	4.05	0.78
	Youth Movement	4.35	1.09
	Total	3.94	1.11
Play behavior ((1) Replicating → (7) originating)	*Playground*	2.88	2.03
	School	4.40	2.60
	Youth Movement	4.45	2.42
	Total	3.98	2.45

Table 1. Mean values play characteristics and play behavior across places

2.5. Discussion

This study shows that replicating and originating behavior can be observed in children's play and that children have different perceptions about both. Children who played originating also indicated that they believed they followed less rules and did their own thing more, while children who played replicating indicated they felt as if they did follow rules and believed they did their own thing to a lesser extent.

The environment children are in, was also found to be important. When children were interviewed at a playground, they felt as if they could do their own thing less than when they played at the youth movement. We also found differences in choice between replicating or originating depending on the places that children were interviewed in. When children were at the playground, they played less originating than when they were at school or at a youth movement. Children also believed the playground was the place where they were less likely to do their own thing. This at least indicates that the places children are in can be associated with some of the characteristics that we linked to the types of play.

3. Study 2

We know little about the reason why children would be inclined to play more replicating or more originating and what rationale lies behind their consideration between them. Study 2 examines one type of situational determinant for selecting either one of both

types of play, namely the place children are in. It has been previously shown that the place children are in can have an important effect on how they behave (Runco, 2014), and study 1 also showed differences in play according to the place children were in.

This study focuses on the home and school environment because these are places where children spend most of their time and additionally, they are places where all children spend time (which is not always the case for youth movements for example, since not all children are members). The school and home environment might bring different associations with the previously discussed developments in childhood, namely reproduction and imitation and imagination and creativity and could have a multitude of different characteristics that might stimulate either one of both types of play behavior. For example, the number and kinds of rules are different at home and at school. There are also different people present in both places. At home, children have parents, siblings and family members in their immediate environment, while at school, they see teachers, friends and peers, all of which might stimulate different play approaches. Due to these differences, variances in preference for the type of play behavior might be expected. This study will therefore assess if replicating or originating play occurs more in school or at home.

3.1. Pretest

Prior to the second study, a pre-test was conducted, to determine how children generally play with specific toys or play activities and to determine if these toys and play activities can be associated with the two types of play behavior.

Fifty-seven children between seven and ten years old (M_{age} = 8; SD_{age} = .63, 44% girls) were therefore interviewed after parents gave written consent that their child was allowed to participate. Children were given a list of games, namely playing with Lego, coloring, playing a jigsaw puzzle, dressing up, playing computer games, playing hide and seek, playing board games, playing with cars, craftwork, making music. The children were asked the following question: “How do you usually play this game” and responded on a three-point scale that indicated respectively, “(1) I try to play this toy game exactly as the booklet, plan or example says.”, “(2) Sometimes I play according to the booklet, plan or example and sometimes I use my own imagination.” and “(3) I try to play using my own imagination and make my own version. I do not follow the booklet, plan or example.”

A one sample t-test was used to determine if children rated a specific toy or game more replicating (score 1) or originating (score 3). Scores were compared to the scales midpoint score "2", representing children's inclination to play both replicating and originating. When the toy or game's mean value is not significantly different from this value, the play activity can -on average- be played both in a replicating and originating way – both by children who generally play that game in both ways (and who indicated that they sometimes played according to the example and sometimes used their own imagination) and by averaging scores of children who play the game originating and children who play it replicating.

Results indicate that six of the ten play activities are not significantly different from the scale's midpoint and are therefore played both replicating and originating (Table 2). These toys and play activities were "playing with cars", "coloring", "craftwork", "making music", "playing hide and seek" and "playing a jigsaw puzzle". Toys and play activities that were more often played by replicating were "playing board games", "playing computer games" and "playing with Lego". Dressing up was a game that children indicated as more preferable for originating play.

We decided to include "coloring" and "craftwork" in our study because these play activities were also most likely to be accessible at home and at school and because for these activities specific and often used examples of a replicating and originating counterpart were available (for example, preset color examples or how-to craftworks versus drawing on a blank page and creating a craftwork from one's own imagination). We also included one specific kind of craftwork, because we thought this category was perhaps too broad, namely "iron-on-beads". This category was selected because this type of activity also incorporates a choice between ready-made examples or figures that can be built from the mind.

Play activity	*M*	*SD*	*t*	*df*	*p*
Dressing up	2.22	.77	2.04	48	.05
Playing with cars	2.19	.84	1.54	47	.13
Coloring	2.16	.77	1.48	48	.15
Craftwork	2.15	.83	1.23	46	.23
Making music	2.08	.85	.66	49	.51
Playing hide and seek	1.98	.89	-.16	47	.87
Playing a jigsaw puzzle	1.86	.81	-1.23	49	.23
Playing board games	1.75	.79	-2.21	47	<.05
Playing computer games	1.73	.82	-2.29	47	<.05
Playing with Lego	1.64	.69	-3.67	49	<.01

Measured as: (1) replicating, (2) both, (3) originating play

Table 2. Association between play activities and replicating and originating play

3.2. Participants

Participants were 127 children who lived in Flanders, Belgium and had the same mother tongue, Dutch. Convenience and snowball sampling was used to reach participants. Four respondents were removed from further analysis, one respondent was unable to concentrate and showed a response pattern (only checked the middle categories without paying attention to the questions) and three respondents because in at least two of following reported regressions they were perceived as outliers (i.e., 3.15% of the respondents, defined as deviating at least two standard deviations from the mean). Finally, 123 respondents between eight and 13 years old were withheld (M_{age} = 10; SD_{age} = 1.05, 50% girls). To test if children's play behavior depends on situational cues, children were interviewed either at their own home (n = 61) or at their school (n = 62) (schools were two subsidized public schools).

3.3. Method

Children were explained what the study entailed and informed that they could opt out of the study at any time. Written parental informed consent was obtained for all children prior to the study. Children who were interviewed at school were unable to see each other's answers, since they were placed at separate tables and out of sight of each other. The interviews at children's homes were also done without the presence of siblings or parents. Children filled out a paper-and-pencil questionnaire and responded to questions about three different play

activities. Some additional measures were also included in the questionnaire, but were not used for this specific paper (Appendix B).

3.4. Measures

Play behavior (replicating vs. originating). Children were presented with three play activities, namely iron on beads, coloring and craftwork, and saw a picture and a verbal explanation for each play activity. Children filled out several filler items in between each of the play activities. Children were asked: "How would you prefer to …color/play with these iron-on beads/do craftwork?" and indicated whether they would follow a model or plan (replicating) or would use their own imagination to create something (originating). This was measured on a scale ranging from replicating to originating play behavior (range 0-10) and was each time adapted to the specific play activity. The scale had no traditional anchor points, but resembled a ruler to make it easier for children to respond to a scale with multiple anchor points. Scores across the three single items were summed and averaged for the three activities to obtain one scale (Cronbach's $\alpha = .44$; $M = 6.67$, $SD = 1.95$), but due to the low reliability of the scale, scores were also compared across the three activities ($M_{iron\ on\ beads} = 5.94$, $SD_{iron\ on\ beads} = 2.92$; $M_{coloring} = 7.87$, $SD_{coloring} = 2.38$; $M_{craftwork} = 6.20$, $SD_{craftwork} = 3.17$).

3.5. Results

Results indicate that the preference for the type of play behavior relates to the place children are in. The scale in which the three activities were averaged showed that children who were at school (coded as "1") were more likely to play originating than children who were at home (coded as "0") (see Table 3 for the results). Controlling for age and gender did not alter this relation – even though age had a negative main effect on originating play ($b = -.38$; $\beta = -.20$, $SE = .17$, $t(119) = -2.14$, $p < .05$).

Because the scale was not internally consistent, we also examined the results for each of the play activities. Children who were interviewed at school would play more originating with iron on beads and craftwork than children who were interviewed at home (and the reverse for replicating play behavior, since the scale ranges from replicating to originating). For coloring, a similar trend is visible, but originating play behavior is only marginally significantly more preferred at school than at home (see Table 3 for the results). By employing a repeated measures design, we were also able to test within subject effects that give more insights in differences in preference for replicating or originating play across the play activities. Within-

subjects contrasts indicate that children's preference for originating was similar for iron-on beads and crafting ($F(1, 121) = .58$, $p = .50$), while children overall preferred originating more for coloring than for crafting ($F(1, 121) = 29.90$, $p < .01$) and also more for coloring than iron-on beads ($F(1, 121) = 37.43$, $p < .01$) (means are reported in the "measures" section).

Age and gender were again incorporated as covariates in the design. They did not impact the results. We did see that age was also negatively related to originating behavior when coloring. When age was controlled for, the effect of place on originating in coloring became even stronger ($F(3,116) = 5.18$; $b = 1.04$, $SE = .44$, $\beta = .21$, $t(120) = 2.28$, $p < .05$). Follow-up analyses showed that this was due to the fact that apparently, the children interviewed at school ($M = 10.41$, $SD = 0.95$) were older than the children interviewed at home ($M = 9.82$, $SD = 1.07$) ($t(118) = -3.17$, $p < .05$).

Play activity	*Place*	*M*	*SD*	*b*	β	*SE*	*t*	*F (df)*	*p*
Composed play scale	*Home*	6.13	2.03	1.07	.28	.34	3.15	9.90 (1.121)	.00
	School	7.20	1.73						
Playing with iron-on beads	*Home*	5.40	0.37	1.07	.18	.52	2.06	4.24 (1.121)	.04
	School	6.47	0.37						
Coloring	*Home*	7.52	0.30	.71	.15	.43	1.66	2.76 (1.121)	.10
	School	8.22	0.30						
Craftwork	*Home*	5.48	0.40	1.44	.23	0.56	2.57	6.59 (1.121)	.01
	School	6.91	0.39						

Table 3. Preference for replicating and originating behavior at school and at home

3.6. Discussion

Study 2 elaborated on the finding of study 1 that children adjust their behavior according to the environment they are in. We argued that the school and home are places with a range of different characteristics (e.g., the people, number of rules and restrictions). Results support the proposition that the environment has an impact on the type of play behavior the child prefers. At school, children are more inclined to play originating with iron-on beads and craftwork than children who play at home and vice versa for replicating play. Coloring was an activity for which initially no differences were found in originating play when comparing play across both places, but results indicated that this was due to the fact that older children preferred to play replicating when coloring (which was reflected in the composed scale and the individual item) and children who were interviewed at school were older than the children who were interviewed at home.

Results suggest that something must be happening in the school environment that makes children want to prefer originating, while some aspects occur at home that perhaps stimulate replicating behavior. For example, when children are given the opportunity to play without restrictions in an otherwise restrictive environment (viz. the school), they might free themselves from the experienced restriction by playing in a least restrictive way. This is consistent with the reactance theory of Brehm and Brehm (1981), that states that when people feel a lack of freedom or that their behavior is controlled or restrained, reactance occurs and people rebel against it by performing opposite actions or adopt contradicting attitudes. This is also consistent with the theory of behavioral (dis)inhibition of Asendorpf (1990), suggesting that certain inhibitors can cause a restricted mind-set and when these restrictions are removed, children experience a need to compensate (e.g., originating more than they would if they had not been in a restricted mind-set). Children might take other associations into account, such as a presence of others, differences in time-schedules of spatial surroundings etc. All of these associations could possibly be an explanation for our findings. By means of qualitative analysis, study 3 will examine these assumptions and will distill specific determinants that might stimulate play differences due to the place children are in.

4. Study 3

Study 3 is an exploratory study and uses qualitative insights to initiate theory development. The goal of the study is threefold, since we want to qualitatively examine (1) why children prefer replicating or originating play behavior, (2) which associations children have with playing at home and at school and (3) why children would play replicating and originating at school and at home.

4.1. Participants

Sixteen in-depth semi-structured interviews were conducted with children between 8 and 12 years old (M_{age} = 10; SD_{age} = 1.03, 10 girls (63%)). Data were collected until a saturation point in the number of new elements in the content of the interviews occurred. Guest, Bunce, and Johnson (2006) indicate that this saturation point generally arises after 12 interviews, which is comparable to the 16 interviews in our study. All children lived in Flanders, Belgium, had the same mother tongue, Dutch, and were interviewed at home during summer holidays. Respondents went to a diverse range of school types (6% community schools, 31% subsidized public schools and 63% subsidized free schools). Interviews were

tape recorded and ranged in time between 21 and 44 minutes (M_{time} = 32:19; SD_{time} = 7:47). Informed consent was obtained from children and additionally, written parental informed consent was obtained for all children prior to the study. To assure anonymity, all children's names that appear as examples in this paper are altered.

4.2. Method

Parents were informed about the purpose of the study and were asked to fill out a written parental consent form. They also received information about the fact that children would be tape-recorded. Children were also briefed about these conditions and were allowed to stop or take a break at any time they wanted. The questions and tasks in the interviews were adjusted to the language and abilities of the respondents. Several open-ended questions were used, such as free associations, mapping techniques (e.g., children used a rectangle that represented all the places they ever were to identify places where they would play replicating or originating), projective techniques (e.g., children narrated about leisure moments and play preferences of a child in a cartoon).

The interviews consisted of several parts. Children first discussed their favorite play activities and toys. This part was not a specific research questions, but served as an introduction to make sure children were accustomed to the setting and the interview style. In a second part, children were asked for free associations about the school and home environment, and differences and similarities in their play behavior at school or at home. In a third part, children were familiarized with the two play types and asked for their preference for and thoughts about each of them. In the fourth part, children elaborated on their preference for each of the play types in specific places (school, home or other places). For each part, the interviewer probed for possible motivations and reasons behind preferences and choices. For example, if the child talked about a moment of free choice of play behavior, the interviewer encouraged the child to indicate what the motivation behind this free choice was.

4.3. Data analysis

All interviews were tape-recorded, transcribed and coded with the software program Nvivo10. Given the fact that theory building was of main interest for the purpose of this study, data analysis followed a grounded theory approach where several coding mechanisms were used as described by Corbin and Strauss (2008). First, open coding was used to divide each interview in the four parts described above. Each of the four parts was later on structured

into categories that were similar in content. These categories were analyzed in order to find patterns in the data and were next aggregated into broader concepts and theories that could answer the research questions. Due to the time investment needed to code all interviews and categorize them into valid categories, coding was performed by one coder. To optimize uniformity, all categories and some key examples and difficult to categorize examples were discussed with a second coder. Several methods were set in advance to assure a maximum level of coding rigor. For example, play behavior that was not voluntarily executed by children (such as in the arts and crafts class at school) was only coded if the children said they would have chosen the same play type if they were able to choose for themselves.

4.4. Results

The analyses yielded three segments of results, namely (1) overall determinants for choosing replicating and originating play, (2) general associations with playing at school or at home and (3) specific determinants for playing replicating and originating at school and at home. To optimize validity, only the main categories that are mentioned by more than one child are discussed in following part of the paper. In the corresponding tables (table 4, 5 and 6), all categories are listed, for which each section includes the number of interviews in which a particular category occurred (respondents) and the number of references found for that category (examples). The number of examples have to be analyzed with precaution, since some of the text fragments are coded in multiple categories.

4.4.1. Determinants for replicating and originating play

Following section lists the main categories and subcategories that can be perceived as general factors children take into consideration when choosing for originating (Table 4, part A) or replicating behavior (Table 4, part B) regardless of place.

4.4.1.1. Use of imagination and inspiration

The use of imagination and creativity is a typical determinant for originating play that seven children mention (nine examples), *"Lily: I like originating because I can use my imagination"*, or because they get inspired by something, for example Marie: *"I like inventing something… when all of the sudden a nice idea pops to mind. Or … I think of something my mom would like and then I draw her something"*. A lack of imagination triggers replicating

play for six children (10 examples): *"Hannah: When I am crafting, I usually create something myself, but from time to time, I look for examples in a booklet when I have no inspiration".*

4.4.1.2. Presence of others

The influence and presence of others facilitates both originating (five respondents, five examples) and replicating (six respondents, seven examples), but through different mechanisms. Replicating is especially chosen when children want to learn from others (four respondents, four examples), while one child plays originating to teach others something (one example). Other people stimulate originating play when children want to adapt their play style to the preferences of others. This was mentioned by three children for originating (three examples) and only once for replicating (one example), for example Louis: *"It depends on which children I play with. If they are fun children, who also have a lot of imagination, we would make our own rules and if it were children with less fantasy, we would just follow the rules … I think.".* One category emerged for both originating and replicating (each time one child gave one example): children said the play type distinguished them from others or showed others what they can do (e.g., being creative, being able to replicate a model).

4.4.1.3. Negative perception replicating

Another typical reason to prefer originating is the negative perception of replicating (three respondents, four examples). It appears that replicating has a "boring" or "dull" perception and is perceived as an act of "copying" and "copy-catting". Some children bring this up as an expression of their own opinion, while others mention that other people's negative perception would prevent them from replicating. *"Lauren: Replicating is something like … a painting, that is copied a lot … for example a painting of a girl… In my class they do it a lot … for example … Phara … she has imitated a lot. There was a friend of mine and she showed me her idea and Phara was also there and then Phara went to her desk and when I went by … what a coincidence … she had the same thing my friend had … arhhhh."*

4.4.1.4. Resources (Lacking/Available)

Three children (three examples) play originating when there is a lack of materials and resources, for example if the examples or models are unattractive or not present. According to these children, models and resources facilitate replicating behavior. If models or materials are absent or unattractive, children resort to originating play. Lucas, for example argued that

"when you use your imagination ... you can make all the things that you like ... whereas if you, for example, cannot find the piece you want in a plan, you cannot make that plan."

4.4.1.5. Previous experience with models

Two children (3 examples) gave examples in which they played originating because they have used models in the past and are reluctant to use them again, for example because they already know the steps or because they have made the model and it broke down. Originating therefore seems to occur once a certain basic level of skills has been achieved. *"Fabian: What I usually do when I am coloring… is…, I take a comic book, where they say how you should draw it [he refers to a step-by-step instruction book] and then I only draw the end-result, because those steps … they are superfluous for me."* The necessity of a basic skill level is also illustrated by three children (4 examples) who play replicating because they have no experience, for example Julie: *"Usually, I look at the instruction sheet, for the purpose, because I sometimes do not understand it, for example … if you have to do something – like painting on plates-, then I don't understand how I have to begin … and then they say that on the paper."* Contrary to this, one child also said that he specifically played replicating because he knew the models and rules, so following them was easy.

4.4.1.6. Better end result

Eight children prefer replicating behavior because the end result is nicer, stronger and more durable (15 examples). "*Vince: I don't want to invent something myself. The examples you can find on the internet are much nicer."*

4.4.1.7. Other categories

Some categories could not account for differences between replicating or originating, but reflected why children preferred any type of play, for example the *difficulty level* of a play activity. Some children prefer originating because it is more challenging, others because it is easier (and vice versa for replicating behavior). Likewise, children are sometimes *scared something goes wrong*, for example because the model cannot be perfectly made or because a construction doesn't work, because children don't have an example or didn't choose the right components. They therefore perform the kind of play that they believe to be less uncertain. This category is more prominent for replicating behavior however, indicating that children see originating as being more risky.

Table 4. General determinants for replicating and originating play

Part A. Reasons to originate					**Part B. Reasons to replicate**				
Main categories	*Subcategories*	*Number of respondents*	*% of respondents*	*Number of examples*	*Main categories*	*Subcategories*	*Number of respondents*	*% of respondents*	*Number of examples*
Difficulty		9	56%	11	**Difficulty**		9	56%	18
	Replicating is too difficult	7	44%	7		*Originating is too difficult*	7	44%	11
	Replicating is too easy	4	25%	4		*Originating is too easy*	4	25%	6
Use of imagination, inspiration		7	44%	9	**Lack of imagination, inspiration**		6	38%	10
Presence of others		5	31%	5	**Presence of others**		6	38%	7
	Adapt play style to others	3	19%	3		*Learn from others*	4	25%	4
	Teach others	1	6%	1		*Adapt to others*	1	6%	1
	Show others I am creative	1	6%	1		*Scared of opinion others*	1	6%	1
Negative perception replicating		3	19%	4		*Show others I can do this*	1	6%	1
Resources (lacking)		3	19%	3	**Resources (available)**		1	6%	1
Previous experience with models		2	13%	3	**Previous experience with models**		3	19%	5
	Know the steps-rules	2	13%	2		*Have no experience with this toy or game*	3	19%	4
	Made the model, but it broke down	1	6%	1		*I know the models / rules, so following them is easy*	1	6%	1
Scared something goes wrong when replicating		2	13%	2	**Scared something goes wrong when originating**		8	50%	10
The end result is better		1	6%	1	**The end result is better**		8	50%	15
						Can be played with afterwards	1	6%	1
						End result is better	8	50%	11
						Stronger - more durable	2	13%	3

4.4.2. General associations playing at school or at home

Seven categories were distinguished that showed differences between playing at home and at school and were mentioned more than once (Table 5).

	Number of respondents	*% of respondents*	*Number of examples*
Playing alone or with siblings (home) vs. with friends	11	69%	18
More (home) vs. less (school) resources	10	63%	14
More (home) vs. less (school) multimedia	6	38%	10
Better (home) vs. worse (school) atmosphere	5	31%	9
Different materials, toys and games	4	25%	6
Provision of space	4	25%	4
Play inside (home) vs. outside (school)	3	19%	3

Table 5. General associations playing at school or at home

Playing alone or with siblings at home vs. playing with friends at school was most often mentioned (11 children, 18 examples).*"Marie: At home, I only have my sister and at school, there are more children. When I am alone, I play different things, because at school, I think: 'Now that I have the chance, I play with children from my grade.'"*

Ten children (14 examples) thought that at school less toys and games were available than at home. *"Emy: Like, for example, at school, you only have one football and a rope for rope skipping, but at home you have more, for example: more books to choose from, and a lot more … yeah … toys."*

Children were less able to use multimedia at school (six children, 10 examples): *"Ella: Sometimes, I craft something myself, but I often use models from the computer. [Interviewer asks if this is at school or at home] At home. … At school, we have a computer, but we can only use it for school tasks."*

There also seems to be a better atmosphere at home than at school (five respondents, nine examples). *"Vince: If I had to choose where to play this game, I would rather play at*

home, because there is a better atmosphere here." "Ella: At home, I can play at ease because at school, it is a little bit crowded."

Four children (six examples) said that school and home have different materials, toys and games *"Liam: At school, there is a play tower, but I don't have that at home. At school, you don't have a swing, but you do at home."*

Four children (four examples) saw differences in the space provided. Interestingly, two children mention that they have more space at home and two children mention that the school provides more space for playing. They all see enough space as a necessity for some types of games (such as outdoor games). *"Vince: We can play better at home, because we … our garden is twice the size of the playground."*

Finally, three children (three examples) play more often outside when they are at school. *"Lauren: Here, at home, I play inside more. There, at school, I play outside."*

4.4.3. Playing originating and replicating at school vs. at home

The replicability of study 2 was also assessed. Results indicate a similar pattern. For the school environment, all 16 children (66 examples) mentioned examples in which they played originating, whereas only 12 respondents (28 examples) mentioned examples in which they played replicating at school. Additionally, six children provided examples in which they switched between replicating and originating at school (10 examples). Children were also asked how they played at home. All 16 respondents (36 examples) provided examples for playing replicating at home, whereas only 12 children (24 examples) provided examples for origination at home. Additionally, nine children (13 examples) said that they switched between replicating and originating at home.

4.4.4. Determinants for replicating vs. originating play at school vs. at home

We also examined determinants that provide explanatory information about why children adjust their type of play behavior according to the place they are at: home or school (up and above the information described in the previous section of the paper) (Table 6). Again, the discussion will mostly focus on the main categories that were mentioned by more than one child.

4.4.4.1. Resources (Lacking/Available)

Thirteen children report the lack of resources at school as one of the major reasons to play originating there (see Table 6, part B). This category is the one with the most references (29 examples) and consists of four subcategories. First, seven respondents (11 examples) would not replicate at school because of a lack of materials to follow the model. *"Nina: If I create something of myself, then I know what I have to start with and if I do something different, it is more difficult … which Lego bricks I need and if my neighbor at school has a brick and he needs them all … then I cannot use that."* Second, seven children (11 examples) have no (attractive) models or guidelines to play replicating at school (even if they would have preferred to). Third, children say they have limited access to multimedia at school (three children, four examples). This limits the opportunity to find online examples and tutorials and children therefore resort to originating behavior. "*Fabian: At school, I don't have my tablet with me, on which I can find these puppets with a model on the internet".* Finally, two children (two examples) play originating at school when there are not enough models or examples for all of the children. "*Nina*: *I don't follow the models at school when I play Lego because they don't have them." "Zoë: Everybody was already crafting and they all had a booklet … and I said … all right, I will use my imagination."*

Conversely, the most mentioned determinant for replicating at home (Table 6, part C) is when children perceive a plentitude of resources (five respondents, seven examples), for example because children have access to more materials (three respondents, four examples). *"Liam: At school … you have other things than at home … you can build something with these materials without following the booklet. At school, you can build less … at school you don't have as much stuff as at home."* Three children (3 examples) specify that there are *more attractive examples, models or guidelines* at home, which facilitates replicating play. *"Ella: I think I prefer an example. Because … an example has prettier things on it than the ones I make myself. [The interviewer asks Ella if her school has this] "Ella: No, we never had".*

Additionally, children indicate that under different conditions, they would behave differently sometimes, which reflects boundary conditions of the results found in study 2. Six respondents (10 examples) would prefer replicating behavior at school (Table 6, part D), if the school had attractive models and if the proper amount of resources were made available, for example if some-one brought them along to school, which was reflected by two children for crafting since their school had a lot of materials – which made it possible to follow instruction

books. One child said she copied examples from the internet and performed them in school. Two children (two examples) also mention a lack of resources at home as a reason to play originating there (Table 6 part A). *"Nina: At school I usually follow an example and at home I make something up." [Interviewer asks why that is the case.] "Nina: Because at school, we get examples … a book … and then we are allowed to make that. I don't have these books at home."*

4.4.4.2. Use of imagination and inspiration

Ten children (17 examples) prefer originating at school (Table 6, part B) because it allows them to use their imagination or because they get inspired by the environment *"Marie: At school, there are a lot more things that pop into mind, for example from the lessons. But … at home … I can't think of anything, so I just follow the model."* This example also reflects why three children (three examples) would replicate at home (Table 6, part C), in case they lack inspiration. Contradictory to the results found in study 2, three children each gave an example in which they play originating at home because it allows them to use their imagination, or because they get inspired by their home environment (Table 6 part A). *"Ella: When I am at home and look at all the nature and my rabbits and my cat, … yes than I start to get more fantasy."* Additionally, two children gave examples in which they replicated at school due to a lack of inspiration (Table 6, part D).

4.4.4.3. Presence of others

Seven children (11 examples) bring up the influence of others as a reason to prefer originating behavior at school (Table 6, part B). They play originating at school due to other children, for example to set them apart from others and show what they can do, but also because other children inspire them. *"Ian: Lego is more fun when you use your imagination and at school I use my imagination, because you have friends there and then you can both use your fantasy for the project. And at home … you can only use your own imagination … ."*

Four children (four examples) see the influence of others as a reason to replicate at home (Table 6, part C), for example because there is another person playing along that prefers to replicate, because they can play alone there, or because they can do what they want at home and don't want to follow other people's play choices. *"Julie: When I am crafting, I look at a picture and replicate that. [Interviewer asks why she likes that more] Otherwise, I really don't know what to make and my mom tells me what to make … and then I don't want to make*

that. So I just look for an example on the internet to make it, a picture or something." This example reflects that Julie replicates because she doesn't want to comply with her mother.

4.4.4.4. Relaxing

Three children prefer to originate at school (six examples) (Table 6, part B) because they often feel the need to relax after an intensive period of work or tasks at school. *"Louis: At school, I would try to make figures with iron-on-beads, but at home … I don't really feel like doing that. At school, that is like … finally … a moment to relax … after all the work I have done. Then I would use my imagination, but I wouldn't at home." [Interviewer asks what he means by relaxing.] "Louis: Ehm… all the work we have done first, like math … and then we can finally relax for a moment."* Two children replicate at home (two examples) (Table 6, part C) because they feel less tensed there and have the time to do so, but also because they are exhausted from school and originating is too complicated at that point *"Lauren: At home, I would follow a booklet … maybe because you are more at ease there."* These two aspects are somewhat conflicting, which indicates that the relaxing nature of play is important and can stem from either which kind of play method a child feels comfortable with.

4.4.4.5. Adherence to tradition, rules

Three children (three examples) (Table 6, part D) said that they can rarely choose freely what they want to play at school and that replicating play is the norm. They feel as if they have to play replicating – even when they have a free choice possibility. Two children (3 examples) (Table 6, part B), see this as an argument to play originating at school, because they seize their opportunity to play originating if they have the chance to do so.

Again, some categories reflected generic reasons for overall preference for a particular type, but showed no consistent pattern for replicating or originating behavior and gave no insights in play differences at school or at home. This was again the case for the level of difficulty of a toy or game and the level of experience with a toy or game.

Table 6. Determinants for replicating vs. originating play at school vs. at home

Main categories	*Subcategories*	*Number of respondents*	*% respondents*	*Number of examples*
Part A. Reasons to originate at home				
Resources (lacking)		2	13%	2
	The models are not attractive	1	6%	1
	Lack of materials to follow model	1	6%	1
Use of imagination, inspiration		3	19%	3
Presence of others	*No Influence of others, I can do what I want*	1	6%	1
Relaxing		1	6%	1
Previous experience		2	13%	2
Part B. Reasons to originate at school				
Resources (lacking)		13	81%	29
	Lack of materials to follow model	7	44%	11
	No (attractive) models	7	44%	11
	No access to multimedia	3	19%	4
	Not enough models or examples for everyone	2	13%	2
Use of imagination, inspiration		10	63%	17
	Use creativity	8	50%	12
	I can do this better than the model	2	13%	3
	Inspiration from location	3	19%	3
Presence of others		7	44%	11
	No-one sets the rules	1	6%	1
	Others are creative and inspire	6	38%	7
	To not have the same result as others	3	19%	3
Difficulty		3	19%	4
	Replicating is too difficult	3	19%	3
	Replicating is too easy	1	6%	1
Relaxing		3	19%	6
	More relaxing	1	6%	1
	To relax after lessons and work	3	19%	4
	Tranquil personality	1	6%	1
Reaction to tradition, rules		2	13%	3
Previous experience with models		2	13%	3
Negative perception replicating		1	6%	1

Main categories	*Subcategories*	*Number of respondents*	*% respondents*	*Number of examples*
Part C. Reasons to replicate at home				
Resources (available)		5	31%	7
	Access to more materials	3	19%	4
	Access to attractive models	3	19%	3
Lack of imagination, inspiration		3	19%	3
Presence of others		4	25%	4
	Don't want to listen to parents	1	6%	1
	Other person prefers replicating	1	6%	1
	You can play alone	2	13%	2
Difficulty - easier than originating		4	25%	4
Relaxing		2	13%	2
	Feel more at ease	1	6%	1
	Too tired to play originating	1	6%	1
Experience		2	13%	2
The end result is better		1	6%	1
Scared something goes wrong when originating		1	6%	1
Part D. Reasons to replicate at school				
Resources (available)		6	38%	10
	There is an attractive model	4	25%	5
	If resources were available	4	25%	5
Lack of imagination, inspiration		2	13%	2
Presence of others		1	6%	1
Relaxing		1	6%	1
Adherence to tradition, rules		3	19%	3
The end result is better / durable		1	6%	1

4.5. Discussion

Study 3 first examined determinants for playing replicating and originating (irrespective of the place children are in). Results show that originating behavior is chosen when children want to use their imagination, when they want to adapt themselves to others by following their type of play, when they believe replicating has a negative, "boring" or "dull" perception and when they feel they have a lack of physical resources (e.g., components, models or instructions). Additionally, when children have some experience with the toy or model they play originating, for example if they made it in the past, while they prefer to replicate when they have little experience with the type of toy or game. Together with the fact that children play replicating because they want to learn from others, this indicates that there might be a sequentially between both types of play, where replicating is a first step into learning a new kind of behavior and originating occurs once a basic set of skills is acquired. Apart from these elements, replicating is also chosen when children have no inspiration and creativity, when children want to learn from others and because the end result is often better, for example because following instructions or models result in a standardized and durable output.

Some categories were similar for replicating and originating behavior and gave no additional information on differences between both, for example the difficulty level of an activity or being scared something went wrong (although more children mentioned this latter category as a reason to play replicating, since more could go wrong when originating).

Seven categories reflected play differences between home and school. At home, children play with less people, have more and different material, have more multimedia, experience a better atmosphere and play more inside than at school. They also see differences in the provision of space. The results of study 2 were also qualitatively repeated; children provided more examples of playing originating at school and replicating at home.

A final section showed that children play originating at school because of a lack of resources, because they can use their imagination or have more inspiration there, because the presence of others inspires them or makes them want to stand out of the crowd and because they like to relax after a period of intense work. Reasons to replicate at home are that children do have resources to replicate (this factor is especially relevant since children indicated this as a play difference between school and home), because they perceive a lack of imagination, because they can feel more at ease and due to the influence of others. Children also react

differently to associations about rules and restrictions at home and at school. They sometimes follow norms and guidelines and sometimes deliberately deviate from them. When some of the conditions would be altered, children would alter their play style (for example, if schools would have the necessary materials, if children did get inspired by the environment etc.).

5. General Discussion

5.1. General discussion of results

To the best of the authors' knowledge, few studies have specifically contrasted and empirically examined typologies of play behavior that relate to the processes of imitation and replication and creativity and imagination in children's development and also specifically translate these into elements of toys and games that are currently on the market, namely play forms with and without instructions and models. This paper started from the idea that these processes can be associated with children's play behavior and proposed a typology of two types of play, namely replicating and originating play.

The first type of play behavior defined in this paper is replicating behavior**,** deferred from the developmental processes of imitation and replication and defined as play in which children follow rules, guidelines, instructions and models. Study 1 verified this definition and showed that children who play replicating believe they have to follow more rules and can do their own thing less. The second type of play behavior defined in this paper is originating behavior, deferred from developmental processes such as imagination and creativity and defined as play in which children employ their imagination, fantasy and do so without using predefined models and instructions. Study 1 verifies this definition and shows that children who play originating believe they have to follow less rules and can do their own thing more than children who play replicating.

This paper identifies overall reasons to prefer replicating and originating behavior. One of the main differentiating factors is children's level of inspiration and creativity. Children prefer replicating when they lack inspiration and creativity and prefer originating when they have a plentitude of imagination. This can be related to the previously described definitions and also shows that originating play is more related to processes of creativity and imagination than replicating behavior. Children also indicate that they can use their imagination more at school, possibly explaining why they choose originating at school.

This is interesting, especially because it is often assumed that schools support creativity and imagination to a lesser extent than the home environment. Children for example reported that they get inspired by the lessons, and therefore want to originate.

Other people also have an impact on choosing replicating or originating play. Our results suggest that originating is a socially preferred play style and is chosen because of social reasons (since the school environment also includes more peers than the home, it could also explain why children prefer to originate at school). For example, children indicate that they generally choose originating when others are also playing in an originating way. Additionally, originating was also preferred by children who believed replicating had a "boring" or "dull" perception. Lastly, one of the reasons to play originating at school was to stand out of the crowd. Literature shows some insights in the reason why originating would be a socially desired behavior and why children would follow others that are playing originating. For example, it has been found that adolescents who are perceived as creative, have a better peer status and are perceived as better social leaders (Lau et al., 2004; Lau & Li, 1996). This makes creativity socially desirable, and could explain why children prefer a more creative play style, namely originating, when they see others doing it. Originating might also lead to a certain peer status and a better social position at school, which is a factor that is not present at home and which could thus explain why children originate at school and replicate at home. Children's play preference might consequently be associated with social standards of what a preferred play type is. The lower esteem of replicating play could be an argument for children to prefer originating and perhaps especially in situations where peer visibility is high.

Our results also show that replicating behavior entails important learning opportunities. This learning component is for example reflected in the idea that replicating can teach children how to do the play activity correctly and children believe that this can lead to a better outcome, since some children replicate because they believe the end result is better, stronger and more durable. Also, replicating is chosen when children want to learn from others. We can relate this to work of Saito et al. (2014), who found that the influence of others might play an important role in learning representational drawing, which is the act of drawing a realistic representation of a certain stimulus (such as an example, a model etc.).

Additionally, replicating might be more suitable to learn a new kind of behavior and might have an instructional role. Replicating arises when children have little experience with the model or toy and originating behavior because they do have a level of mastery within the

domain. This finding corresponds to some elements of the representational redescription model of Karmiloff-Smith (1992), which argues that when children first play with a new kind of toy that requires a certain technique, they have no previously existing knowledge or schema's. They can then start retrieving external information from the environment (for example: using instructions, models, tutorials etc.) and by doing so, they gather knowledge and experience. In a next phase, children will be more reliant on these learned schemas and will focus specifically on their own internal representations. Originating play might therefore be seen as a play form that builds on basic skills learned through replicating. Both play types can be essential in learning a certain skill and in some circumstances, both should be stimulated if children feel the desire to perform them. Imitative experiences (such as replicating play) have an important role in children's development and should perhaps not necessarily be discouraged in children's upbringing. Even though replicating play might easily be perceived as less creative, it enables children to develop important skills that may not even be practiced in activities outside of the play behavior, but which might contribute to the development of more original and perhaps more creative behavior.

In these determinants for choosing between replicating and originating lies an interesting duality between learning from others or getting inspired by them. Perhaps the school and home environment each contribute differently to this duality. One of the most important differences between playing at home and at school was that children played alone at home and with peers at school. Possibly, the presence of peers at school serves as an inspirational and more social source of play. This argument can be related to the work of Bodrova (2008), who states that due to an age segregation in today's classrooms, children play most of their time with children of their own age. They have a similar level of development and this limits the chances to develop new skills. Learning possibilities might therefore be less present in interactions with peers. As we saw earlier however, creativity is an important inspirational source in originating play which is more present in schools because there are peers present.

The home environment on the other hand might be rather suitable as a place that stimulates learning of new behavior in a less social way. Learning how to perform a play activity might be instigated by for example parents, siblings, multimedia etc. These sources may not necessarily have an impact on children's inspiration level, but rather on their learning abilities. Since the retrieval of inspiration is less mentioned with regard to the home situation, it is perhaps more likely that when children are at home, they use non-human methods as

learning devices, such as online tutorials, how-to-guides etc. - which can be seen as helpful tools to let children play alone. Study 3 did, after all, show that multimedia is also more present at home than at school, which could suggest that children use multimedia more to learn from at home (which results in replicating play) and get inspired by peers at school (which results in originating play).

Originating behavior is also preferred when children have a lack of resources (such as toys and models), while replicating occurred in situations where resources were available. Previous literature found that restrictions in input material can in fact increase creative output (Moreau & Dahl, 2005; Sellier & Dahl, 2011). When people are restricted in resources, they have to be more creative in finding a solution to the problem at hand, whereas they probably resort to the solutions they know or already experienced in the past when they are given more materials and perceive less restrictions. Literature refers to this as the 'path of least resistance' (Ward, 1994) where people tend to solve problems in the easiest way, for example by adopting methods that were successful before. This was also reflected in children's play at school. Children indicated they played originating at school, because they had less resources there to replicate. We also found that the school typically had less resources to play with than the home environment and we can therefore see this determinant as an important explanatory factor for playing originating at school and replicating at home. This is in line with previous studies that suggest that children do have a lot of toys and resources at home since parents invest a lot of money in their children, of which a lot goes to toys, and even more so in recent years (Kornrich & Furstenberg, 2013).

Both replicating as originating behavior can be chosen because children believe one of both is more difficult or easier. This determinant is dependent on the personality, play style and perception of the child. For example, some children argued that they liked originating behavior and that there was nothing difficult about it, others argued that they liked originating behavior because it was so challenging.

The fear of doing something wrong was also mentioned for both types of play behavior, but is more often mentioned as a reason to avoid originating behavior, because children see originating as a play activity where more can go wrong. Previous research has already shown that creativity entails a certain willingness to take risk (Dewett, 2006), so children might perceive originating behavior as risky, because the end-result is never predefined, or because they do not always know how the game will go. The level of risk might be smaller for

replicating behavior, because replicating play activities often rely on rules, which might provide children with a more secure feeling about the process and end-result of the activity.

The categories that emerged in study 3 can be seen as overarching reasons to play originating or replicating, and if particular places have a unique co-occurrence of several of these factors, children's preferences might alter. Study 3 contributed to this and distinguished seven play differences between school and home that might relate to the fact that children see more reasons to prefer originating at school and replicating at home. Children believe that at home, they play with less people, have more resources, have more access to multimedia, play inside more and experience a better atmosphere than at school. They also use different toys, games and resources and the provision of space is also different.

For several play activities, children play more originating at school and more replicating at home (which was underpinned quantitatively in study 2 and qualitatively in study 3). If a particular setting has therefore more elements that facilitate originating (vs. replicating) behavior, children will probably be more likely to exert originating (vs. replicating) behavior. For example, when children have little access to instructions, models and examples in a particular place, they might be stimulated to play originating. One could therefore also argue that when children perceive these elements in their home environment they might be more inclined to play originating, for example when they experience a restriction in resources, when they have a good social peer network which allows them to play with others, due to particular parenting styles etc.

The idea that environments have a strong impact on the choice between a creative or replicative thinking style can be embedded in previous theories that have examined what situational elements exactly stimulate and discourage creativity and freedom of thought. For example, in their study on how employee creativity can be stimulated, Steidle and Werth (2013) found that darkness and dim lighting gives people a feeling of being free from constraints and triggers a risky, explorative processing style. Vohs et al. (2013) also found that orderly environments are environments that stimulate tradition and convention, whereas disorderly environments stimulate breaking with tradition and convention. We add to literature about the impact of environmental stimuli on creative thinking by finding that several determinants in a child's daily environments, such as a lack of resources, a stimulation of imagination etc. can also bring about creative play behavior. There is also research that argues that creativity performance is higher when a place is designed in such a way that

furniture and colors are designed according to children's needs (Makhmalbaf & Do, 2007). The school environment seems to be more often designed for children that the home environment, since children spend a lot of time at home in places that are not designed specifically for them (such as the living room, kitchen) (Makhmalbaf & Do, 2007). This might also explain why children play more originating in school, as schools are more often designed with furniture and items that are suited to children's needs.

5.2. Limitations

This paper has some limitations that are important to recognize. For example, in order to obtain a representative sample, a lot of effort was put in recruiting participants via a diverse range of sampling methods. We have to acknowledge however that social class, ethnicity and culture can still be of influence for our results. Due to the extensive length of the questionnaires, but also due to anonymity reasons, we were unable to fully register this so we are not able to rule these factors out. Samples sizes of the studies are also rather limited, so future research is needed to replicate our findings.

To keep the examples and experiments consistent, we decided to focus on play behavior that is performed alone and without other people present. This has a number of advantages, which were deliberately envisioned by deciding to select only solitary play. For example, solitary play is the type of play that all children are accustomed to because it develops early on in childhood (Coplan, 2000; Coplan et al., 2001; Parten, 1933). Future research might examine group play as well, however, since it could generate different results. Experiences in general are often enjoyable simply because they can be shared with others (Nicolao, Irwin, & Goodman, 2009), so the presence of others can be of importance.

There is some evidence in literature that might suggest that originating play might be particularly well suited to be played in group. First, previous studies found that social flow experiences (such as for example playing football in group) are perceived to be more enjoyable than solitary flow experiences (such as playing golf alone) (Walker, 2010), because people tend to get more sense of flow (a correlate of creativity) from experiences shared with others. Also, people seem to be more willing to take risks (which is also related to creative thinking and creative behavior) when they are playing in a team or group (Cohen, Ejsmond-Frey, Knight, & Dunbar, 2010; Ryu & Parsons, 2012). These studies seem to suggest that people might experience benefits from others on creative experiences. Perhaps, originating

experiences might therefore also be more stimulated and more joyful when they are shared with others. Also, in study 3, the presence of others emerged as an important factor to distinguish between replicating and originating at school and at home, as we saw that children prefer more originating play in schools. Schools typically have more peers present and thus provide more opportunities for social play. Future research should therefore elaborate more on this social component of play and look into the social component of play, for example by exploring group play instead of focusing on solitary play.

It is also important to acknowledge that our definition of replicating and originating behavior is used as a broad category, in which a number of different play forms can still be distinguished and categorized. For example, it would have led us to far to distinguish between restrictions imposed by following instructions and restrictions imposed by giving a target outcome, like the studies of Dahl and Moreau (2007), although this would be interesting for future studies. Future research might also examine if replicating behavior is a play form that is chosen for what several theorists call "games with rules" (Pellegrini, 2004; Piaget, 1951; Smilansky, 1968). These games are distinguished from other toys and games to the extent that "games with rules" have very explicit, formal rules that are set a priori and are rarely altered during the game (for example card games). Future research is necessary to examine if replicating play behavior shows consistencies with "games with rules" and if replicating might even be the overarching play behavior used in "games with rules".

Also, despite our efforts to only use examples in which children perform voluntary and non-obliged play in study 3, we see that they do still emerge in some examples, for example by certain constraints or certain conditions. This challenges the preposition that we measure true preferences in all categories and examples in study 3.

Given the fact that only one coder analyzed the interviews and only verbally compared categories with a second coder, no inter-coder reliability measure is available. Future research is therefore needed to confirm the reliability of the categories presented.

Future research should also take the time sequence and interchangeability between the play types into account. To optimize uniformity of the results, we decided to let children play once and coded the behavior on a continuum ranging from replicating to originating. This choice is backed up by for example section 4.4.3, where some children indicated that they sometimes performed a play style that was "in between" replicating and originating. Future

research should dig deeper into this, because it could mean that children use a mixture of both play types (for example follow the model up to a certain point but add some elements from their own), but it could also mean that children switch back and forth between play types (for example, start by following the model, then try to add something of their own, but go back to the model if this doesn't work out as was planned). Examining these different types would provide more insights in the relation between replicating and originating.

The studies were not able to capture exactly to what extent previous experience with models or guidelines impacted on the results. Children might, for example, use examples they already made in the past and use this knowledge when they are originating. This can also be seen as a form of imitation. Several theories suggest that when people perform a novel behavior, this might be based on earlier learnt behavior in other domains (Karmiloff-Smith, 1992). This means that children can also use these newly learned skills at a later point in time.

5.3. Conclusion

In sum, with three studies and a mixed design approach, this paper showed that children can perform two play types, replicating and originating play and showed that the environment children are in and the associations children have with this environment or the circumstances imposed by this environment can impact the type of play chosen. Further research is needed to provide insights in the desirability of working with these two types of play behavior and using its determinants in order to understand how and why children play and should examine the effects of these play types. It might sound attractive to manipulate children's play type by what we believe to be better kinds of play, for example by artificially designing a home situation in which children are deprived from resources to stimulate originating behavior but many examples can be given in which children are already stimulated at schools or at home to play certain types of games, or perform certain types of play methods. Since children in the third study also give examples of situations in which they try to overcome certain restrictions in the environment, it would seem advisable to facilitate free choice.

The current study also contributes to previous studies about "fit theory", that have shown that environments can stimulate cognitive procedures that can stimulate of deteriorate creativity (Steidle & Werth, 2013; Vischer, 2007). Our study can provide insights in the design of places in which children usually play, for example schools, youth movements, home etc. These places can be designed in such a way that children are stimulated to opt for the play

behavior they actually think is most suitable for them. This can be facilitated by for example providing children with all necessary equipment to play both originating and replicating, by giving them an atmosphere where they can work more at ease etc. For example, we could promote a school atmosphere where originating and replicating are equally valued and socially approved, or where less material restrictions are limiting children's free choice of play. If children can choose more freely how and what they play and the home and school environment would contain less restrictions, children might choose a play type that is more in line with their true preferences and this might be more aligned to what drives their own happiness. It has, after all, long been shown that children's daily experience of living and learning in the environment around them is a critical factor in their overall well-being (Sustainable Development Commission, 2010).

6. Appendix A. Effects of play behavior on consumption choices

The studies in chapter III established the existence of a replicating and originating style in children's play. Toy producers such as Lego incorporate the duality described in the previous chapter in their toys. Lego provides Lego boxes of which it is the main goal to recreate the model that is presented on the box and include manuals and instructions, but Lego also provides boxes consisting of a bunch of unsorted Lego without specifying explicitly what children can make with them. This additional study assesses if children's play preferences also relate to choices they make for advertised toys that specifically emphasize our typology. Playing, after all, shows similarities with elements of consumer socialization, since the toys and games children play with might be one of the ways in which children come into contact with this consumer world. If children's play behavior and preferred play style result in preferences for related toys and games, policy makers should keep this in mind, because it would mean that children translate their play preferences in consumption preferences.

6.1. Method

This study consequently examines if preferred play behavior is also related to preferences for toys and games that are advertised with characteristics matching replicating and originating play. An informed consent was signed by the parents and children were also asked to for their willingness to participate to the experiment. One-hundred-eighteen participants from 9 to 13 years old participated in an experimental study (M_{age} = 10, SD_{age} = 1.55, 48% Girls). Children were first asked to indicate how they generally played. General play behavior was assessed by means of two single item measures: "Do you usually follow the rules and guidelines that are provided with a specific game? (replicating)" and "Do you usually play a game by doing what you like, without looking at the examples or booklet? (originating)". They responded on a scale ranging from (1) "No absolutely not" to (5) "Yes, absolutely".

After a filler task, children were given three advertisements, differing only in the description of the toy/game that was advertised (both advertisements had identical backgrounds and contained no other information about the toy/game than the descriptions but the fact that it was introduced as "new"). The game descriptions related to (1) a toy/game that was either typically reflecting replicating play behavior ("You play this game by using a plan and a model. You use the plan you get to rebuild a figure"), (2) a toy/game that was neither

completely replicating nor completely originating (You play this game by looking at an exemplar model and you recreate this model.") (3) a toy/game that was typically reflecting originating play behavior ("You play this game by using your own imagination. You can choose everything yourself. You determine the rules"). After watching these advertisements, children indicated which of the advertised toys/games they would choose.

6.2. Results and Discussion

Results first show that not all advertised toys are equally popular ($\chi2(2) = 15.74$, $p < .01$). Children overall have a preference for choosing the originating toy ($n = 56$, 48%) over the replicating toy ($n = 40$, 34%) ($\chi2(1) = 2.67$, $p < .05$) and the toy that was neither completely replicating nor completely originating ($n = 21$, 18%) ($\chi2(1) = 15.91$, $p < .01$). They also preferred this latter toy less than the replicating one ($\chi2(1) = 5.92$, $p < .05$). This is especially interesting because the general preferences of children's play behavior (measured before seeing the ad) indicated that children preferred replicating ($M = 4.22$, $SD = 0.96$) more than originating ($M = 2.40$, $SD = 1.26$), as seen by a difference in means for these scales ($t(117) = 11.59$, $SE = .16$, $p < .01$).

We additionally identified if general play preferences also related to the toys/games that were chosen after seeing an ad for them (Figure 4 shows preferences for the originating over the replicating toy). Multinomial logistic regression analysis revealed that preference for originating play behavior significantly increases the odds of preferring the originating game over the replicating game ($b = .53$, *Exp(B)* = 1.69, $SE = .19$, Wald's $\chi2= 7.49$, $p < .01$), yet a general preference for originating did not have a differential effect on choosing between the game that reflected a mixture of both play types and the originating game ($b = -.26$, *Exp(B)* = .77, $SE = .21$, Wald's $\chi2 = 1.51$, $p = .22$) nor between the game that reflected a mixture of both play types and the replicating game ($b = .27$, *Exp(B)* = 1.30, $SE = .24$, Wald's $\chi2= 1.23$, $p = .27$).

A marginally significant influence is found for the impact of replicating play behavior on the choice between a replicating toy and an originating toy, indicating that the odds that children prefer the replicating over the originating toys increases when preference for replicating behavior increases ($b = .48$, *Exp(B)* = 1.61, $SE = .26$, Wald's $\chi2= 3,39$, $p = .07$).

A general preference for replicating play behavior did not have a differential effect on choosing between the game that reflected a mixture of both play types and the originating

game (*b* = .07, *Exp(B)* = 1.07, *SE* = .26, Wald's $\chi 2$= .07, *p* = .79) nor between the game that reflected a mixture of both play types and the replicating game (*b* = -.41, *Exp(B)* = .67, *SE* = .31, Wald's $\chi 2$ = 1.73, *p* = .19).

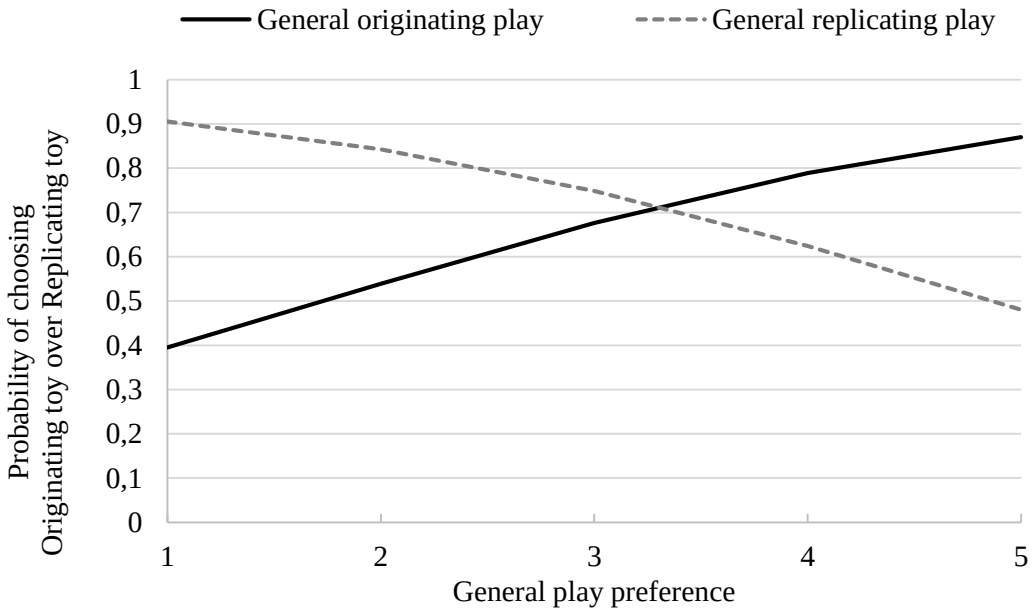

Figure 2. Probability of choosing the originating toy over the replicating toy as a function of general play preference

6.3. Conclusion

Results show that children who prefer a particular play style also have a higher preference for toys and games that are congruent to this play behavior. Preference for play behavior thus relates children's actual game preferences.

This study is only a preliminary way to establish if the play dimension that was proposed in chapter III relates to children's consumer behavior. Some limitations are crucial and therefore also need to be taken into account before future studies can be initiated. For example, in this study, the effect was marginally significant for the relation between general replicating play preferences and the choice for a replicating toy over an originating toy, whereas the effect was clear for a preference for originating play that related to the choice of an originating toy over a replicating one.

Almost half of the respondents preferred the originating toy/game, while means for the scale of general preference for originating play scale was rather low in comparison with the

replicating play scale. This might be due to the wordings of the slogan that was used for the originating toy ("You play this game by using your own imagination. You can choose everything yourself. You determine the rules"). Perhaps the insertion "you can choose everything yourself" emphasizes free choice and intrinsic motivation more than the other toys and games did. This might stimulate children to choose this game.

We also saw that in general, children preferred replicating play over originating play. Future research should examine to what extent this is due to the fact that children needed to respond to these items by making inferences about their "general" play behavior. If we relate this to result of the third study of chapter III, we might argue that children could be reflecting on behavior that they have never before performed or that they did perform in the past. Since the scale was measured by asking children whether they usually follow the rules and guidelines that are provided with a specific game, this might also mean that children might make a general estimate about how they play particular games, and therefore perhaps include the learning stages of that game. As we found in study 3 of this chapter – each game will probably require replicating at some point in time.

It would therefore be worthwhile to further examine how toy makers advertise toys and games that are related to our play dimensions and to examine to what extent they are able to tap into children's play behavior.

7. Appendix B. Scales used in studies chapter III

7.1. Scales study 1

This experiment was part of a larger study in which children also completed other tests. These additional tests are not included in the current paper, yet served as filler items for our study – and also made sure that there was enough time between the tasks for the current paper. Children started this questionnaire by completing some socio-demographic questions (such as gender, age, number of brothers and sisters etc.). They also completed the 10-item youth materialism scale of Goldberg (Goldberg, Gorn, Peracchio, & Bamossy, 2003), of which 5 items were adapted to the Dutch translation of this scale (Buijzen & Valkenburg, 2003) (similar to the materialism scale of Chapter II, study 1). Children also completed some questions regarding self-regulatory focus. After playing with Lego, children were additionally asked to indicate some general questions regarding the activity (e.g., the difficulty level of the play activity, if they followed all steps from the instruction of followed their imagination, some questions on outcome and process orientation, purchase intentions for the game etc.).

Play behavior (replicating vs. originating)

The interviewer received a coding sheet with following question: "How would you categorize the play behavior"? This measure was coded by the interviewer using a seven-point scale with following anchor items: (1) "absolutely replicating", (2) "mainly replicating", (3) "rather replicating", (4) "in between replicating and originating", (5) "rather originating", (6) "mainly originating", (7) "absolutely originating".

Play characteristics

- Did you think that you had to follow the rules with this Lego?
- Did you think that you could do your own thing with this Lego?

This scale was measured on a five-point scale ranging from (1) "No, absolutely not" to (5) "Yes, absolutely".

7.2. Scales study 2

After children indicated how they would play with each of the three play activities, they also indicated some other elements about this activity (e.g., their attitude towards this activity). As filler items in between the questions for the play activities children also completed the Material Value Scale for Children (MVS-c) (Opree, Buijzen, van Reijmersdal, & Valkenburg, 2011), a general one-item happiness measure, a Big-5 personality inventory (Barbaranelli, Caprara, Rabasca, & Pastorelli, 2003). They also completed a second part of the questionnaire of which no items were used in this paper, including a game in which children had to complete a puzzle by adding a missing piece, a game in which children were presented with a paint-by-numbers picture for which they had to follow or not follow the colors, a Lego task in which children were allowed to play replicating or originating and questions related to both tasks (e.g., how happy they felt while playing, how difficult they thought these tasks were etc.). We did however decide not to use these measures as the length of the questionnaire was eventually too long and the first measures (which were reported in the chapter) were most reliable – because they appeared at the beginning. We also asked children to give associations about school and home.

Play behavior (replicating vs. originating)

- How would you prefer to play with these iron on beads? You can put a cross on the ruler to indicate your answer.
- How would you prefer color? You can put a cross on the ruler to indicate your answer.
- How would you craft? You can put a cross on the ruler to indicate your answer.

Children indicated whether they would follow a model or plan (replicating) or would use their own imagination to create something (originating) on a scale ranging from replicating to originating play behavior (range 0-10) and was each time adapted to the specific play activity. The scale had no traditional anchor points, but resembled a ruler to make it easier for children to respond to a scale with multiple anchor points.

7.3. Scales Appendix A

This experiment was part of a larger study in which children also completed other tests. These additional tests are not included in the current paper, but served as filler items for our study. Children for example completed questions about general play behavior, also some

additional questions about the play choice (for example, why they chose that particular game/toy). They also completed the Remote Associations Test of (Mednick, 1962), the youth materialism scale of Goldberg (Goldberg, Gorn, Peracchio, & Bamossy, 2003), of which 5 items were adapted to the Dutch translation of this scale (Buijzen & Valkenburg, 2003) (similar to the materialism scale of Chapter II, study 1) and the Aspiration Index of intrinsic and extrinsic life goals.

General play behavior (replicating vs. originating)

- Do you usually follow the rules and guidelines that are provided with a specific game? (replicating)
- Do you usually play a game by doing what you like, without looking at the examples or booklet? (originating)?

Children responded on a scale ranging from (1) "No absolutely not" to (5) "Yes, absolutely".

Toy choice

If you were allowed to choose a game/toy, which one would you choose?

- game/toy 1
- game/toy 2
- game/toy 3

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CHAPTER IV
ASSESSING THE WHAT IS BEAUTIFUL IS GOOD STEREOTYPE AND THE INFLUENCE OF MODEL ATTRACTIVENESS ON SELF-PERCEPTION AND ADVERTISING EFFECTIVENESS FOR 8- TO 13-YEAR-OLD CHILDREN

CHAPTER IV

ASSESSING THE WHAT IS BEAUTIFUL IS GOOD STEREOTYPE AND THE INFLUENCE OF MODEL ATTRACTIVENESS ON SELF-PERCEPTION AND ADVERTISING EFFECTIVENESS FOR 8- TO 13-YEAR-OLD CHILDREN[2]

1. Theoretical Background

1.1. Introduction

From the moment children are born, they start developing consumer skills, knowledge and attitudes they will employ in their life as a consumer (John, 1999; Ward, 1974). In their process to develop these attitudes and skills, which is also called the consumer socialization process, they are tutored by a number of socialization agents (Ward, 1974). Advertising and media can also be considered as consumer socialization agents in children's lives, because they target children with numerous advertising stimuli (Churchill & Moschis, 1979; Moschis & Churchill, 1978). By doing so, they use a number of advertising methods such as bright colors, humor, endorsers, catchy music, idealized products, attractive models etc. This is done to convince children of the advertised products and to instigate advertising effectiveness and consumer reactions.

One of the techniques that is used on a frequent basis is idealization and exaggeration, for example by employing attractive advertising models. The reason why advertisers use this technique so often lies in the idea that attractive (versus less attractive) models are evaluated

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positively by people, also on characteristics that are weakly or even unrelated to physical appearance (Smith, McIntosh, & Bazzini, 1999). This is explained by the physical attractiveness (PA) stereotype, also called the "what is beautiful is good" stereotype, or the perception that physically attractive individuals also possess other positive qualities and experience more satisfying life outcomes than less attractive individuals do (Dion, Berscheid, & Walster, 1972). This PA stereotype leads people to believe that attractive people are, for example, also happier (Dion et al., 1972), more popular, less aggressive (Smith et al., 1999) etc. The stereotype is also used in movies, where movie makers portray attractive movie characters with higher levels of moral goodness, romantic activity, better life outcomes and higher centrality to the plot (Bazzini, Curtin, Joslin, Regan, & Martz, 2010; Smith et al., 1999). Attractive people are not only evaluated more positive for a lot of other characteristics, their opinion also matters more for others (Kardes, Cronley, & Cline, 2014). Debevec, Madden, and Kernan (1986) suggest that higher model attractiveness leads to higher verbal and behavioral compliance. This translates into advertising effectiveness because attractive models are more persuasive than less attractive models, due to the fact that we more often agree with them (Baker & Churchill, 1977; Joseph, 1982; Kahle & Homer, 1985; Kamins, 1989; Solomon, Ashmore, & Longo, 1992).

Although the PA stereotype is well established, much is left unanswered, however, about its effects, especially for children. Children are in a different phase of development and have less developed processing skills (John, 1999; McNeal, 1992; Piaget, 1964), which could impact how the attractiveness of a model affects ad effectiveness. Additionally, there is not a lot of knowledge about unintended effects of using moderately attractive peer models in ads towards children, such as for example effects on self-perception and self-worth. It is therefore important to know how children can be affected by attractive models and how the PA stereotype works for them. This paper provides insights in these questions by means of three research goals.

First, we want to expand the research on the PA stereotype in children by investigating if the PA stereotype is present for moderately attractive (versus less attractive) peer models. Bower and Landreth (2001) argued that normally attractive models may be good endorsers for products because they are perceived to be similar to the consumer. They define normally attractive models as models that are normal looking in the way that they have an average body weight and height, have average facial characteristics and are considered as "real" men and woman. They are still attractive, yet not highly idealized. Bower and Landreth (2001) also

argue that normally attractive people are more often perceived as people who encounter normal situations and problems and therefore, the PA stereotype is less likely to occur. In advertising to children, "normally attractive" peer models seem to be often used. Still, literature mainly examines highly idealized models. In this paper, we argue that for children, the PA stereotype will hold, even when advertisements make use of models that can be considered as peers (and thus of similar age) who are moderately attractive, portrayed in a natural way and of which the attractiveness is not specifically enhanced. We suggest this because as people grow older, they also see more and more images of attractiveness. They become accustomed to beauty and attractiveness appeals and as Martin and Kennedy (1993) put it, the sight of extremely attractive models becomes "old news". With increasing age, people also experience an increasing gap between their actual and ideal self (Sigelman & Rider, 2014), which might also indicate that they become more critical towards their own – and perhaps also other people's attractiveness. This might also indicate that for adults, normally good looking people might indeed not specifically have more positive characteristics (whereas they would believe this is true for highly attractive people). We argue that for children, a moderate level of attractiveness of a peer model might still engender higher ratings on model characteristics.

Second, we also examine if advertising effectiveness is stimulated by ads that incorporate moderately attractive (vs. less attractive) models, even when products are endorsed that are unrelated to beauty appeals, such as for example toys. Previous research found that products related to beauty are the ones that are best suited to be endorsed by attractive models (Bower & Landreth, 2001). These products are, however, less relevant for children, since advertising to children is mainly focused on food, drinks, toys and entertainment (Gunter, Oates, & Blades, 2004; Rodd & Patel, 2005). Few research exists on the effects of using moderately attractive same age peer models in advertising for non-beauty products on children's attitudes and behavior—while the combination of these models and products are often used in advertising to children (for example, toy advertisements use peer models on a frequent basis). Children have less cognitive defense mechanisms towards advertising compared to adults. Cognitive development theories show that children become more informed consumers with age and that children learn a number of essential skills that might help them to process advertising claims and make them less susceptible to the influence of advertising (Martin & Gentry, 1997; Rozendaal, Buijzen, & Valkenburg, 2009). For example, with increasing age, children focus more on important and relevant attribute

information (Davidson, 1991; Wartella, Wackman, Ward, Shamir, & Alexander, 1979). This could make older people less susceptible to peripheral advertising elements (such as beautiful models) but could also make a match-up between the product characteristics and the characteristics of an endorser more important. If a non-beauty product is then linked to an attractive endorser, older people might not transfer positive evaluations of attractiveness to better product or advertising evaluations. This makes young children perhaps susceptible to advertising cues, and not likely to see the product-endorser fit as a relevant argument.

Third, apart from its positive effects on advertising effectiveness, exposure to attractiveness in advertising might also impact children in a negative way. For adults, exposure to highly attractive models instigates comparisons with these models, which might result in negative self-ratings of attractiveness, self-esteem and mood (Bessenoff, 2006; Hatoum & Belle, 2004; Thornton & Moore, 1993) and evoke feelings of inadequacy and/or jealousy (Bower & Landreth, 2001). Research with children, however, shows inconsistent results. Martin and Kennedy (1993) assessed the effects of highly attractive models in ads for female pre-adolescents and adolescents but found no support for lowered self-perceptions. They did find that female pre-adolescents' and adolescents' self-perceptions and self-esteem can be detrimentally affected by looking at attractive models when self-evaluation occurs, which is a motive naturally occurring when people compare themselves with models in ads (Martin & Gentry, 1997; Martin & Kennedy, 1993, 1994). To date, inconsistent results exists on the influence of attractive (versus less attractive) models on the self-perception of children (Martin & Gentry, 1997; Martin & Kennedy, 1993; van der Deen, Schwinghammer, & Verkooijen, 2011). Research in this field mainly concentrates on the effects of idealized attractive models on girls between 10 and 13 years old and also rarely looks into effects of normally looking peer models. We extend this by investigating both *boys* and girls between 8 and 13 years old and by concentrating on *non-idealized moderately* attractive same age peer models.

The goal of this paper is therefore to shed light on the effect of using moderately attractive same age peer models in advertising for non-beauty products on advertising effectiveness and self-perception of children of different ages by means of two studies (study 1: 8- to 9-year-old children; study 2: 12- to 13-year-old children).

1.2. What is beautiful is good

The evaluations and inferences people make about a person can induce deferred evaluations about other characteristics that person has (Nisbett, 1977). This is usually called the halo-effect, which Nisbett (1977, p. 250) defines as "the influence of a global evaluation on evaluations of individual attributes of a person". Individuals for example believe that warm and caring people have appealing appearances, mannerisms and accents (Nisbett, 1977). Likewise, teachers have negative perceptions of children who are categorized as being deviant and even maintain to express these expectancies when these children display normal behavior (Foster & Ysseldyke, 1976). Children are also exhibiting this halo-effect. They for instance believe that popular children are also more attractive and have frequent peer interactions, while they assume that unpopular peers are unattractive, deviant, incompetent, and socially isolated (LaFontana & Cillessen, 2002). One of the characteristics that people often use as a way to evaluate others is the characteristic that is best visible and observable, namely attractiveness. The physical attractiveness of a person is therefore often described as one type of halo-effect people use in their evaluations of others (Kaplan, 1978; Lucker, Beane, & Helmreich, 1981).

Several studies already confirmed the presence of the PA stereotype, or the perception that attractive people also possess other positive characteristics. The stereotype has been observed in adult samples in different contexts (Abramowitz & Ogrady, 1991; Buunk & Dijkstra, 2011; Caballero, Lumpkin, & Madden, 1989; Cash & Kilcullen, 1985; Fink, Neave, Manning, & Grammer, 2006; Smith et al., 1999) and different cultures (Chen, Shaffer, & Wu, 1997). Across these studies, attractive people were perceived to be happier (Dion et al., 1972), more popular, less aggressive (Smith et al., 1999) etc. The stereotype is most robust for perceptions of social competency and less predictive of intellectual competence, psychological adjustment, integrity and concern for others (Eagly, Ashmore, Makhijani, & Longo, 1991).

The perception that physically attractive individuals possess more positive qualities also transfers to the perception that they experience more satisfying life outcomes than less attractive individuals do (Bazzini et al., 2010; Dion et al., 1972; Ruiz, Conde, & Torres, 2005). Dion et al. (1972) for instance found that individuals who were physically attractive

were expected to experience more happiness in their lives (e.g., happier marriages, more professional success). Evans (2003) showed that women tend to believe that professional female models (who embody idealized attractiveness and thinness) are happier than average females.

A number of diverse processes can be at play as underlying determinants for the "what is beautiful is good" stereotype. Some authors argue that personality might in fact be correlated to the appearance of people (Dion et al., 1972), since attractive people might, for example, behave socially desirable when they learn that peers expect certain behavior from them. The meta-analysis of Langlois et al. (2000) showed that attractive people are in fact more popular, show greater intelligence/performance competence and are better adjusted. The stereotype can also be seen as a projective technique in relationships with others. People may project their own desire to relate to attractive others by ascribing additional positive attributes to them (compatible to these bonding motives) (Lemay, Clark, & Greenberg, 2010).

The presence of the PA stereotype has also been established in children samples (Bazzini et al., 2010; Dion et al., 1972; Langlois et al., 2000; Ruiz et al., 2005). In the meta-analyses of Langlois et al. (2000), attractiveness seems to have the largest effect on social appeals (such as for example on judgements of social desirability, temperament, getting along with others, having a positive mood and sociability) and academic competence (judgements of skills, intelligence, acting grown up etc.), but also impacts on adjustment (for example judgements of confidence, fear, aggression) and interpersonal competence (judgements of leadership, social power, success in disputes, fairness). Children are also confronted by differential treatment of attractive children by adults. Teachers for example seem to associate attractiveness of a child with greater expectations about how intelligent the child is, how far his/her progress would be and how popular the child is with peers (Clifford & Walster, 1973).

Children thus also evaluate attractive people favorable on other characteristics. Ramsey, Langlois, Hoss, Rubenstein, and Griffin (2004) describe several steps in the formation of the "what is beautiful is good" stereotype. The first stage is the innate preference for attractiveness. Research with babies found that the PA stereotype is innate (Langlois & Roggman, 1990; Ramsey & Langlois, 2002) and even shows that children as young as 6 months old can categorize attractive and unattractive faces in two distinct groups (Ramsey et al., 2004). Being able to make classifications and categorizations lies at the basis of stereotype building (Ramsey et al., 2004), which is also the second step of the formation of the

stereotype. In a third step, children learn to associate attractiveness to positive or negative elements. Ramsey and Langlois (2002) suggest that children observe their environment and see that attractive individuals are more favorably treated. Later on, children are most likely to be in the fourth step of the process and begin to transfer these positive and negative elements into stereotypes of attractive and unattractive people.

There is little doubt that, despite the biological preference for attractive faces, the environment also encourages this liking by means of socializing agents (e.g., peers, parents, teachers, mass media), who expose children to their own values and beliefs. Popular culture (like movies and advertising) is one of these powerful educational forces, teaching children cultural norms. Media contributes to the physical attractiveness stereotype by frequently encouraging associations between beauty and goodness. The movies children watch, for example animated children's movies, including Disney movies, often link beauty with goodness and happiness (Bazzini et al., 2010). As children watch films dozens of times (Robertson 1998), the subtlest messages in children's media become deep-rooted (Bazzini et al., 2010). These associations stimulate the physical attractiveness stereotype and can make children infer that good things only happen to beautiful people.

1.3. Consumer socialization and advertising to children

To be able to act as consumers in the market, children have to acquire skills, knowledge, and attitudes relevant to their role as consumers, a procedure that is called consumer socialization (John, 1999; Kuhlmann, 1983). While growing up, children gain knowledge on products, brands, advertising, shopping, pricing, decision-making strategies, parental control and negotiation approaches (Berey & Pollay, 1968; Hawkins & Coney, 1974; John, 1999; McNeal, 1992; Robertson, 1979; Ward, Wackman, & Wartella, 1977).

Consumer socialization is also dependent upon the influence of mass media (John, 1999). Young children are exposed to increasing numbers of media sources, of which media is an effective tool to motivate consumers to buy products. In the USA alone, children between 8 and 18 years old watch about four and a half hours of television each day (Gantz, Schwartz, Angelini, & Rideout, 2007). For preschoolers, television watching times average around 3.78 hours per day (Tandon, Zhou, & Christakis, 2012). Since children watch television as frequently as they do, they are also exposed to advertising stimuli on a daily basis. These advertising stimuli are therefore prominent in children's lives: it is estimated that

children see over 40.000 television commercials a year (Wilcox et al., 2004). The more time children spend watching television, the more they are influenced by it in their consumption choices and purchase requests (Bandyopadhyay, Kindra, & Sharp, 2001; Strasburger, 1993), and the more they are socialized as a consumer.

Since in nearly 25% of the commercials, some form of attractiveness is present (Downs & Harrison, 1985) and movies often link beauty with goodness and happiness (Bazzini et al., 2010), children learn to relate beauty to goodness by means of the process of consumer socialization. This association is especially true in advertising, in which attractive models appear in positive settings (Buunk & Dijkstra, 2011).

1.4. The influence of children's cognitive development on advertising effectiveness

Studies show that advertising can persuade children that a product is desirable (Roedder, Sternthal, & Calder, 1983), but cognitive development plays a crucial role in the processing of advertising (Martin & Gentry, 1997). Several theorists have provided reflections on the stages of cognitive development of children and some of them are of special interest to give more insights in the effects of attractive advertising models. Theories such as the developmental stages of Piaget (1964), Roedder (1981) and John (1999) show that as children grow older, they learn a number of essential skills that help them understand the intent of advertising, help them process and evaluate advertising claims and make them less susceptible to the influence of advertising (John, 1999; Martin & Gentry, 1997; Rozendaal et al., 2009).

Children ***below 7 years*** are called limited processors by Roedder (1981), because they have underdeveloped processing skills. For example, children of 7 year olds start to understand that advertising differs from program content, but they are still generally unable to understand the persuasive intent of advertising (Valkenburg & Cantor, 2001; Wilcox et al., 2004). Children younger than 7 years old also use limited information during decision-making (John, 1999) and are less able to discriminate relevant from irrelevant information (Davidson, 1991; John, 1999; Wilcox et al., 2004). They are for example often attracted to perceptually salient information, which may or may not be relevant (Wartella et al., 1979), for example by focusing on perceptual stimuli and peripheral cues, such as the use of celebrity endorsers, the use of colors, music etc. (Hoffner & Cantor, 1985; John, 1999; Livingstone & Helsper, 2006; Moore & Lutz, 2000; Ross et al., 1984; Wilcox et al., 2004). They are therefore often seen as unable to ignore irrelevant information, in favor of more relevant or important information.

The age of ***7 to 8 years*** emerges in several studies as a tipping point for children's cognitive development (John, 1999). It is the beginning of a developmental phase that lasts in most studies until the age of about ***11 years old***. In Piaget's theory of cognitive development, this stage is called the concrete operational phase (Piaget, 1964). At the age of 7 to 8, children exhibit more and more cognitive instead of perceptual preferences. Although perceptual information is still important, children will gradually stop to believe everything they see. Additionally, whereas younger children focus specifically on one dimension in the pre-operational phase (such as the size of an object), children above seven years old will begin to use a few dimensions or attributes of one particular stimulus to set up their choices (they will for example be able to make product evaluations based on the size and taste). They learn to think abstractly, and are able to organize and use what they learned in the environment and learn to see the world through multiple perspectives, which provides them with consumer knowledge and decision making skills (John, 1999). Their impression formation skills develop, enabling them to form impressions of others (John, 1999). In the framework of Roedder (1981), children in this phase are called cued processors. They are in a phase where they can use and learn strategies that enable them to retrieve and store information – but under the condition that they are prompted to do so by a certain cue. They are not always able to retrieve information they have learned as these skills are still developing.

The age of ***11 to 12 years*** is the start of Piaget's "formal operational" stage and John's "reflective" stage (John, 1999; Piaget, 1964). Children at this age are generally seen as being able to engage in complex –and more adult like- thinking. Nairn (2014) reasons that society considers the age of 12 as a milestone in children's lives. It is generally the age at which children start a new educational phase in their lives, as they leave elementary school. Children above 12 years old have generally adopted the cognitive capacities that enable them to process advertising critically and skeptically (John, 1999; Nairn, 2014). This allows them to defend themselves more against advertising. They usually think about advertising in a reflective way, they can relate to social aspects about consuming, such as seeing the need to develop a consumer identity and can also make decisions based on multiple dimensions. They employ many different types of strategies and therefore also go beyond merely perceptual information seeking. They use multiple dimensions and attributes for decision making. They can for example make a price-quality trade off and also incorporate the taste and even looks of products in their decision making process. At this age, children also begin to be more

focused on the social aspects of consuming. They want to shape an identity, learn how to fit in groups and form a group identity (John, 1999; Nairn, 2014).

In sum, we can conclude that older children (above 11 years) have the capacities to process advertising in an ‘‘abstract”, “multi-dimensional” and ‘‘strategic’’ way, they can also base their decisions on multiple dimensions and are most likely able to focus on relevant attributes (John, 1999). Children younger than 7 years process advertisements in a “simple”, ”concrete’’ and “unidimensional” manner. They make decisions based on limited information – for example by using only one attribute- and focus on perceptual information. Some of these developmental abilities are important in processing attractiveness cues in advertising, for example the findings that with increasing age, children focus more on important and relevant attribute information (Davidson, 1991; Wartella et al., 1979) and that with age, children are capable of using more attributes and dimensions in forming preferences (Bahn, 1986; Capon & Kuhn, 1980; Ward et al., 1977).

Livingstone and Helsper (2006) also look into this and suggest that different persuasion processes occur at different ages. They use the Elaboration Likelihood Model of Persuasion (Petty & Cacioppo, 1986), and the Heuristic-Systematic Model (Eagly & Chaiken, 1993) to make a distinction between younger children, who would be more likely to be persuaded by the peripheral route, and older children, who are more likely to be persuaded by the central routes that are proposed in these models. This is also shown by Moore and Lutz (2000), who similarly found that younger children use less elaborate strategies to process advertising, such as for example peripheral route processing. Since young children are more persuaded by peripheral elements, they are more interested in superficial or peripheral features of advertising that are less related to the content of the message, such as colors, music and celebrity endorsers (Carruth, Skinner, Moran III, & Coletta, 2000; Dalmeny, 2004; John, 1999; Valkenburg & Cantor, 2001; Wilcox et al., 2004). Older children, on the other hand, would be more attentive to the central persuasive route, which relates to the actual arguments of the message. Because they focus on the creativity or informative nature of the commercial they are more influenced by the quality of the arguments and claims of advertising, providing that they attend, and are motivated to engage with the message, and that its arguments are convincing. Ross et al. (1984) for example showed that children older than 11 years were less influenced by celebrity endorsements than children between 8 and 10.

We can see that advertising make use of these persuasion difference across age groups. Advertisements for younger children often use bright colors, lively music, and simple messages (Livingstone & Helsper, 2006), and often emphasize the physical aspects of the product (Lewis & Hill, 1998). These characteristics could be labelled as peripheral advertising elements. Advertisements for older children, on the other hand, use more stylish images, subtle messages and are often more witty (Livingstone & Helsper, 2006).

2. Hypotheses

Our first goal is to confirm the presence of the PA stereotype in children for moderately attractive peer models. Following previous research (Bazzini et al., 2010; Dion et al., 1972; Ruiz et al., 2005), we expect that children rate attractive (versus less attractive) models higher on other characteristics that are unrelated to beauty, yet this paper will put forward a number of aspects that expand the insights that currently exist on the stereotype and its effect on children.

First, this paper draws on the differences in cognitive development between adults and children to argue that for children, the PA stereotype will hold even for moderately attractive peer models. Contrary to some previous studies who used exposure to adult models and highly idealized models in research for children (Bazzini et al., 2010), this study portrays same-age peer models. These models are used in advertising to children, but few studies actually investigate the effects of their appearance in advertising to children.

We propose that even a moderate attractiveness level of a peer model might engender more positive evaluations on other characteristics than less attractive peer models would. As people grow older, they see more and more images of attractiveness and might become accustomed to beauty and attractiveness appeals (Martin & Kennedy, 1993). Moderately attractive people might therefore still trigger the beauty stereotype for children. With increasing age, people also experience an increasing gap between their actual and ideal self (Sigelman & Rider, 2014), which might also indicate that they become more critical towards their own – and perhaps also other people's attractiveness. This might also indicate that for adults, normally good looking people might indeed not specifically have more positive characteristics (whereas they would believe this is true for highly attractive people). We argue that for children, a moderate level of attractiveness of a peer model might still engender higher ratings on model characteristics.

This paper also assess a range of characteristics that children might relate to attractiveness of the model, whereas previous studies only used a few items per study (Bazzini et al., 2010; Dion et al., 1972). We also argue that the general PA stereotype will hold for children of 8 to 9 as well as for children of 12 to 13 years old. As a result, we argue that when children see moderately attractive models, they will translate and alter additional information about the model so it conforms to already existing knowledge and schemas (i.e. the belief that what is beautiful is good). Children's more simplistic representations of concepts might enhance the prevalence and effect of the physical attractiveness stereotype. We therefore propose the following hypotheses:

> Hypothesis 1: The PA stereotype is present for 8- to 9 and 12- to 13-year-old children for moderately attractive models.

A second goal is to investigate if the perceived physical attractiveness of an advertising model affects children's self-perception. Research in adult samples shows that several aspects of self-perception can be affected by exposure to idealized models in advertising. For example, when adults see highly attractive models, they show more body concerns (Hatoum & Belle, 2004) and experience decreases in self-attractiveness ratings and self-esteem (Bessenoff, 2006; Little & Mannion, 2006; Thornton & Moore, 1993). Research with children shows inconsistent results. For example, Dittmar, Halliwell, and Ive (2006) found that when girls of 5 to 7 years old were exposed to images of Barbie dolls (who have idealized characteristics), they reported lower body esteem and greater desire for a thinner body shape, an effect that was not there for 7,5 to 8,5 year old girls. Martin and Gentry (1997) observed female pre-adolescents and adolescents of 10 to 14 years old. They found that exposure to idealized models does not always lead to lower self-perceptions of physical attractiveness. They manipulated the comparison motive and found that detrimental effects of exposure to attractiveness are only found when self-improvement or self-enhancement was the motive for comparison and not when the attractiveness of models was discounted and this for children of 10, 12 and 14 years old. Martin and Kennedy (1993) also show that older girls (17 to 18 years old) compared themselves more with models in ads than girls of about 10 to 14 years old and found that this effect is especially there when self-evaluation occurs.

Our study looks at children of 8 to 13 years old, so evidence from previous literature would suggest that exposure to attractive models in advertising has little detrimental effects for this age group – at least for girls. Most of the studies that have been conducted in the past

examined girls, so no real inferences from them can be made for boys. We argue that boys might react differently to exposure to moderately attractive peer models for a number of reasons. First, Jones (2001) shows that boys more often see same-sex peers as comparison targets than idealized models. Moderately attractive models might therefore be valid comparison targets. We therefore especially expect detrimental effects of exposure to moderately attractive models for boys and not for girls.

Second, boys are less used to advertising with attractive models. In a content analysis of television commercials, Ogletree, Williams, Raffeld, Mason, and Fricke (1990) showed that advertising to children put more emphasis on female appearance enhancement than it did for boys. This could indicate that girls are used to see attractive models in ads and might be accustomed to it. Boys might not be and might therefore be more susceptible to comparison with models in ads at this particular age in the occasion they do see advertisements with male models. We propose following hypothesis to examine if moderately attractive models affect self-perception:

Hypothesis 2a: Exposure to moderately attractive (versus less attractive) models does not affect self-perception of 8 to 13 years old girls.

Hypothesis 2b: Exposure to moderately attractive (versus less attractive) models lowers self-perception of 8 to 13 years old boys.

Our third goal is to identify if children's evaluations of advertising and subsequent behavior are also affected by using a moderately attractive (versus less attractive) model. Research among adults shows that an attractive (versus less attractive) model results in higher message effectiveness (Parekh & Kanekar, 1994). When adults see advertisements displaying attractive (vs. less attractive) models, products are more favorably evaluated. The technique is also used in advertisements to children (Pringle, 2004), but the effects are less often examined. For children, model characteristics can play an important role in the effectiveness of advertising, since they are often not solely interested in the product, but rather attracted by the image, as brought forward by the spokesperson that surrounds the product (Acuff & Reiher, 1999).

Since cognitive development plays a crucial role in the processing of advertising and skepticism towards advertising claims develops only from a certain age (Bandyopadhyay et al., 2001; Rozendaal, Buijzen, & Valkenburg, 2011), younger children are probably more

susceptible to these advertising techniques. They are also seen as limited processors, with processing skills that are not yet fully developed or successfully utilized (John, 1999).

These cognitive skills might also have an impact on how they use relevant or irrelevant information, such as for example the match-up between an endorser and the product he or she endorses. Parekh and Kanekar (1994) show that the PA-effect is greater for products related to beauty (e.g., shampoo) compared to non-beauty related products (e.g., a ball-point pen). This link between attractiveness and product type might be irrelevant for younger children, since the dual model proposed by Livingstone and Helsper (2006) suggests that younger children are likely to be persuaded by the peripheral route and since the ability to focus on relevant attribute information increases with age (Davidson, 1991; Wartella et al., 1979). We expect that attitudes and intentions regarding an advertised product that is unrelated to beauty are influenced by the physical attractiveness of the model for children of 8 to 9 years old children, but are not impacted for 12 to 13 year old children.

> Hypothesis 3a: Exposure to moderately attractive (versus less attractive) models positively affects advertising attitudes and buying intentions for products unrelated to beauty for children of 8 to 9 years old.

> Hypothesis 3b: Exposure to moderately attractive (versus less attractive) models does not affect advertising attitudes and buying intentions for products unrelated to beauty for children of 12 to 13 years old.

3. Methodology

Two experimental studies were conducted to test prevalence of the PA stereotype and the effect of using moderately attractive models in advertising on self-perception and advertising effectiveness for two age groups (study 1: 8 to 9 years; study 2: 12 to 13 years). Children of 8 to 9 years old were selected because research shows that children below that age are limited processors and less able to ignore irrelevant information in favor of more relevant or important information (John, 1999; Wartella et al., 1979). They are not always in a phase where they actually have necessary advertising knowledge, nor can they always use this knowledge without being prompted to. Children of 12 to 13 years old were selected because they are supposed to have the necessary skills to use more elaborate levels of ad knowledge – if they are willing and motivated to do so.

Four models were selected, one girl and one boy for study 1 and one girl and one boy for study 2. Respondents were randomly assigned to seeing either an advertisement using an attractive or less attractive same-sex child model. We used same-sex models in accordance to previous research (for example Tsai & Chang, 2007) and because previous studies indicate that models of the same sex might bring about the highest levels of compliance. For example, children seem to prefer peers of their own sex (Terry & Stockton, 1993), they also preferably play with same-gender and same-age peers (Martin & Fabes, 2001) and choose objects from same-gender peers over those endorsed by other-gender peers (Shutts, Banaji, & Spelke, 2010). In general, people also prefer advertising models of similar age (Kozar, 2010). Children were thus exposed to models that match their own gender[3].

For both studies, schools were contacted, where all children within the age range were invited to participate. Participation of the children was voluntary, children who did not want to participate were also not encouraged to do so. Children who did participate were given information about the studies. For example, they were told that they were allowed to take a break or stop the questionnaire at any time and were also told that the provided answers were confidential. Children were also instructed to give honest answers, by using an exemplar question that was somewhat sensitive to social compliance (for example "Do you like school?"/ "Do you like the earrings of the interviewer?"/ …). By using these examples, children were instructed to give honest and truthful answers – especially since the interviewer wanted their true opinion. Teacher, school and parental written consent were obtained before starting each study. Parents also got a brief description of the study about what their children would have to do in the questionnaire, without specifying the true hypotheses (to not compromise the results). The children completed a self-administered survey and were interviewed in the classroom, out of sight of each other.

4. Study 1

4.1. Participants

[3] All advertisements and manipulations are available upon request, but cannot be added to the published version of this chapter due to confidentiality concerns of the children who were willing to model for the ads.

Seventy-five children between 8 and 9 years old participated (48% girls, M_{age} = 8.5, SD_{age} = 0.50). All children were recruited in two schools located in the Dutch speaking part of Belgium. All children within the age range were invited to participate.

4.2. Design and stimuli

In a between-subjects 2 (gender: female/male participant and model) x2 (attractiveness model: less/moderately attractive) design, children were randomly confronted with an advertisement of a new pencil case. They saw a same-sex model of their own age.

Previous research shows that the assessment of overall attractiveness strongly correlates to the assessment of the attractiveness of the face (Mueser, Grau, Sussman, & Rosen, 1984). We therefore altered the facial characteristics of the models. The models (one boy and one girl) used in this study were the same person in both the moderately attractive and less attractive ad, but were depicted as less attractive by changing facial characteristics using Photoshop. Three aspects were manipulated that impact the way facial characteristics are perceived as attractive: symmetry, averageness and hormone signals. Symmetry is one of the main features that is associated with an attractive face for both men and women. Especially for young children and older people, symmetry is attractive (Kowner, 1996). Averageness is a second characteristic that was taken into account when adjusting the facial characteristics. An average face is seen as more attractive because it is more balanced (Langlois, Roggman, & Rieser-Danner, 1990). Finally, hormonal characteristics were incorporated by employing an imperfect skin for the less attractive model. Elements of all three facial attractiveness characteristics were employed to create the less attractive model (e.g., adding pimples, changing nose and ear size, manipulating the size of the forehead etc.).

4.3. Pretest

A pre-test, using a within-subjects design with repeated measures ANOVA (N = 15, 53% girls, M_{age} = 8, SD_{age} = 1.16), showed that the "moderately attractive" and "less attractive" models were identified as such ($F(1,13) = 9.62$, SE = .29, $p < .05$). For both boys and girls, the moderately attractive model was significantly (Boys: $F(1,13) = 9.10$, SE = .33, $p < .05$; Girls: $F(1,13) = 5.52$, SE = .33, $p < .05$) more attractive (Boys: M = 3.07; SD = 1.07; Girls: M = 3,64; SD = 1.01) than the less attractive model (Boys: M = 2.07; SD = 1; Girls: M = 2.86; SD = 1.03), as measured with a five-point scale ("Do you think this child is attractive?"), ranging from "(1) NO, absolutely not!!!" to "(5) YES, absolutely!!!".

The female and male attractive models did not differ in level of attractiveness ($F(1,13) = 2.02$, $SE = .40$, $p = .18$). There was a marginally significant difference for the less attractive models, however. The male less attractive model was perceived as marginally less attractive than the female less attractive model ($F(1,13) = 3.70$, $SE = .41$, $p = .08$). Surprisingly, the less attractive female model and the attractive male model were perceived to be equally attractive ($F(1,13) = .21$, $SE = .47$, $p = .66$). In line with expectations, the female attractive model was more attractive than the less attractive male model ($F(1,13) = 11.40$, $SE = .47$, $p < .01$).

The ad children saw was a commercial for a new branded pencil case. The pretest also verified if a pencil case is a product suitable for both boys and girls. Children indicated on a five-point scale ranging from "(1) Only for boys" to "(5) Only for girls" whether they saw a pencil case as a product for boys or girls. A pencil case was perceived as a gender-neutral product, since the mean ($M = 3.13$, $SD = 0.52$) aligned with the value "3" which signified "for both boys and girls" ($t(14) = 1$, $p = .33$). We also found that a pencil case is not perceived as a beauty product, which was assessed by asking children if a pencil case is used to make a person pretty. They evaluated this on a five-point scale ranging from "(1) NO, absolutely not!!!" to "(5) YES, absolutely!!!" ($M = 1.33$; $SD = 0.62$).

We selected two pencil cases, one for girls and one for boys, both new and not available in Belgium, to eliminate the experience with the product. Pretesting with a within-subjects design showed that the pencil cases were in fact unknown to the respondents when they were asked if they saw this pencil case before, on a scale with following answer possibilities: "(1) NO!!!, (2) No, (3) In between, (4) Yes to (5) YES!!!" (Pencil case boys: $M = 1.40$, $SD = 0.63$; pencil case girls: $M = 1.53$, $SD = 0.83$). No differences in previous knowledge between both pencil cases was found ($F(1,14) = .32$, $SE = .24$, $p = .58$). Both pencil cases were also evaluated as equally positive when children were asked how much they liked each pencil case ($F(1,14) = 1.35$, $SE = .58$, $p = .27$; pencil case boys: $M = 3$, $SD = 1.31$; pencil case girls: $M = 3.67$, $SD = 1.35$) and how pretty they believed each pencil case was ($F(1,14) = 2.69$, $SE = .61$, $p = .12$; pencil case boys: $M = 2.67$, $SD = 1.45$; pencil case girls: $M = 3.67$, $SD = 1.45$), both measured on a five-point scale ranging from "(1) NO!!!" to "(5) YES!!!"

We additionally compared evaluations of boys about the boy pencil case with evaluations of girls about the girl pencil case. Results show that boys' ($M = 1.57$, $SD = 0.54$) prior knowledge of the boy pencil case was not significantly different than girls' ($M = 1.25$, $SD = 0.46$) prior knowledge about the girl pencil case ($t(13) = 1.25$, $p = .23$). Boys ($M = 3.71$,

SD = 1.25) also like the pencil case for boys to an equal extent as girls (*M* = 4.38, *SD* = 0.92) like the pencil case for girls (*t*(13) = -1.18, *p* = .26). Girls also believed the pencil case for girls (*M* = 4.38, *SD* = 0.92) was equally pretty as boys (*M* = 3.43, *SD* = 1.72) believed the pencil case for boys was (*t*(13) = -1.36, *p* = .20).

4.4. Measures and Procedure

Self-perception before seeing the ad. Before exposure to the ad, children reported their age and gender. Then, they completed all five items from the "*general self-worth*" and two items of the "*physical appearance*" subscales of the Dutch version (Treffers et al., 2002) of Harter's Self-Perception Profile for Adolescents (Harter, 1988) and Self-Perception Profile for Children (Harter, 1985). These latter two items were included because they were the ones that were best adapted to children's language (after translation into children's mother tongue) and also had a high factor loading in the study of Muris, Meesters, and Fijen (2003). In the original scale, children had to make a choice between items on a bipolar scale. As suggested by Wichstraum (1995) we disentangled these two items and used one-statement questions. The statements were transformed into questions, because children can respond to questions more easily (Buijzen & Valkenburg, 2003) (e.g., Are you happy with who you are?" (general self-worth); "Are you happy with the way you look?" (physical appearance)). The children responded to the questions on a five-point scale, for which each answer possibility had verbal and non-verbal anchor points. The non-verbal anchor points were emoticons that indicated respectively (1) a very sad face, (2) a sad face, (3) a neutral face, (4) a happy face and (5) a very happy face. The verbal anchor points that were used were shown once at the beginning of the questionnaire. Verbal anchor points corresponded with the emoticons and indicated respectively (1) "NO!!!", (2) "no", (3) "In between", (4) "yes" and (5) "YES!!!".

Reliability coefficients were low for self-worth before being exposed to the ad (α = .50), therefore we removed two of the five items from the scale (α = .58) (*M* = 4.53, *SD* = 0.61). Additionally, perceived physical appearance before being exposed to the ad was also found to be low in reliability (α = .41). We therefore decided to use the two individual items in the analysis: "Are you pleased with your body? (*M* = 4.51, *SD* = 0.96)" and "Are you happy with the way you look? (*M* = 4.45, *SD* = 0.96)".

Advertising effectiveness. Next, children saw the ad and filled out two items about their *attitude towards the ad*, viz. "Do you like this ad?" and "Do you think this ad is stupid"

(reverse coded) (α = .93, *M* = 3.47, *SD* = 1.36), based on previous research (Derbaix, Blondeau, & Pecheux, 1999; Derbaix & Bree, 1997; Derbaix & Pecheux, 2003; Pecheux & Derbaix, 1999, 2002). *Purchase and request intention* was measured by using four items from previous studies measuring purchase and request intentions. We used a composite of items, because previous studies have often used one-item measures that only focus either on the "buying" part or either on the "request" part of purchase and request intentions. For children, both are essential, however. We used the item employed in Derbaix and Bree (1997), namely "Would you buy this pencil case at the store if you had enough pocket money for it?" and the one used by Mallinckrodt and Mizerski (2007), "Would you ask this pencil case as a present for your birthday?". Additionally, two items were included that have often been used as measures of purchase intentions in studies with adults (Bennett & Harrell, 1975; Kamins & Marks, 1987), namely "Would you want to buy this?", and "If you could choose one item in a store, would you choose this pencil case?" Reliability of this scale was very good (α = .85, *M* = 2.20, *SD* = 1.14).

Children also completed measures about ***previous experience with the product*** (one item measure: "Did you know the product before you saw this ad"; *M* = 1.72, *SD* = 1.23), ***liking of the product category*** (one item measure: "Do you like pencil cases in general?"; *M* = 3.71, *SD* = 1.34) and the ***attractiveness of the model*** on a five-point scale (one item: "Do you think this child is attractive?").

Model characteristics. To assess the "what is beautiful is good" stereotype, we asked children to rate the models on individual characteristics, which were adapted from previous studies and adjusted to the age of our sample. Characteristics were adapted from Lemay et al. (2010) (e.g., "generosity" was altered to "willingness to share toys"), Ramsey and Langlois (2002) (e.g., "kind" and "friendly"), Boyatzis, Baloff, and Durieux (1998) (e.g., "smart"), (Dion et al., 1972) (e.g., "happy"). We also included some characteristics that are less obviously related to social appeal and have been used less in literature about the PA-attractiveness effect (e.g., "is good at sports", "honest", "likes all kinds of food" and "follows the rules")[4]. Children were asked to indicate if the child in the ad possessed this characteristic

[4] Factor analyses were performed to identify specific groups of characteristics. Since no meaningful factors were found, we used the single items in the analysis so comparisons between these characteristics can be made.

and indicated their answer on a five-point scale using the non-verbal anchor points as described above (see Table 1, part A for an overview of all characteristics).

Self-perception after seeing the ad. Finally, children completed the SPP-A subscales "*general self-worth*" and "*physical appearance*" again. Reliability analysis indicated coefficient alphas within the acceptable range for self-worth after being exposed to the ad (α = .68, *M* = 4.05, *SD* = 0.78) and perceived physical appearance after being exposed to the ad (α = .80). Because the reliability of the perceived physical appearance scale before being exposed to the ad was low, we used the two individual items in the analysis: "Are you pleased with your body? (*M* = 4.45, *SD* = 0.91)" and "Are you happy with the way you look? (*M* = 4.32, *SD* = 1.08)".

4.5. Results

4.5.1. Control measures

Before analyzing the results, a manipulation check was conducted to evaluate if the moderately attractive and less attractive models were also perceived as such. ANOVA analysis examined the effect of gender (model and respondent) and model attractiveness (attractive vs. less attractive) on attractiveness ratings of the model.

There is a significant main effect of gender ($F(1,71) = 18.20$, $SE = .31$, $p < .01$) on the attractiveness ratings, indicating that girls overall evaluated the female model as more attractive ($M = 3.17$, $SD = 1.63$) than boys evaluated the male model ($M = 1.90$, $SD = 1.14$). As expected there was a main effect of the attractiveness condition ($F(1,71) = 5.16$, $SE = .31$, $p < .05$), indicating that the attractive models were –regardless of gender differences- also perceived as significantly more attractive ($M = 2.77$, $SD = 1.61$) than the less attractive models ($M = 2.22$, $SD = 1.40$).

There was also a significant interaction effect ($F(1,71) = 6.38$, $SE = .61$, $p < .05$), however. Planned comparisons showed that girls rated the moderately attractive female model as more attractive ($M = 3.94$, $SD = 1.30$) than the less attractive female model ($M = 2.47$, $SD = 1.61$; $F(1,71) = 11.13$, $SE = .44$, $p < .01$). For boys, no differences between the moderately attractive ($M = 1.86$, $SD = 1.21$) and less attractive condition were found ($M = 1.94$, $SD = 1.09$; $F(1,71) = 0.03$, $SE = .43$, $p = .86$). Boys consequently believed that both models were equally attractive.

Girls also believed the female attractive model was more attractive than boys believed that male attractive model ($F(1,71) = 23.85$, $SE = .43$, $p < .01$) and male less attractive model was ($F(1,71) = 19.59$, $SE = .45$, $p < .01$). The less attractive models were both perceived as equally unattractive ($F(1,71) = 1.47$, $SE = .44$, $p = .23$), yet surprisingly, the male attractive model was also equally attractive as the female unattractive model ($F(1,71) = 2.19$, $SE = .41$, $p = .14$). We therefore have to acknowledge that the moderately attractive male model scored poorly on the attractiveness rating. Boys saw no attractiveness differences in the manipulation of the attractive and less attractive model and the female attractive model was rated as most attractive. This makes comparisons across conditions difficult. To account for this, the attractiveness rating ("How attractive is this boy/girl?") ($M = 2.51$, $SD = 1.53$) was used in the further analyses instead of the manipulated condition. Since beauty is, after all, a matter of perception (Little & Perrett, 2002), in this way, we account for possible differences in perceived attractiveness of the models across manipulation conditions.

We selected a new product to eliminate product experience - which could affect children's attitudes. Results indicate that overall, children were not familiar with the pencil case they saw in the ad (Boys: $M = 1.84$, $SD = 1.39$; Girls: $M = 1.58$, $SD = 1.05$), and no gender differences were found in previous knowledge about the product ($t(1, 72) = -.91$, $p = .37$), which was consistent with the pre-test.

No significant gender differences were found when comparing for boys' and girls' estimates of whether they "liked" the product category "pencil cases" ($t(73) = .78$, $p = .44$; Boys: $M = 3.59$, $SD = 1.37$; Girls: $M = 3.83$, $SD = 1.32$).

4.5.2. "What is beautiful is good" stereotype

A general linear model regression analysis tests if the "what is beautiful is good" stereotype applies for children of 8 to 9 years old by identifying the relation between ratings on several model characteristics as dependent variables and perceived attractiveness of the model (mean centered), gender (respondent/model) and their interaction term as independent variables (Table 2, part A).

Gender is not directly related to any of the model characteristics. There is a positive effect of perceived model attractiveness for all model characteristics, except that the characteristics "doesn't leave the table without finishing meal" and "likes all kinds of food" are only marginally significant. An interaction effect was found between gender and

perceived attractiveness of the model for the variables "being good at sports" and "being happy" when adding the interaction term gender x model attractiveness as second step to the regression model. The interaction effects indicate that boys who perceive a model as more attractive, also believe they are better at sports (b = .91, $t(62)$ = 5.86, p < .01) and think they are happier (b = .90, $t(62)$ = 5.16, p < .01), and do so more than girls attribute these characteristics to female attractive models (sports: b = .19, $t(62)$ = 1.65, p = .11; happy: b = .46, $t(62)$ = 3.58, p < .01).

4.5.3. Self-Worth and Physical Appearance

Regression analysis examined the influence of perceived model attractiveness, gender and their interaction on children's own self-worth and physical appearance. No significant main effect of attractiveness or gender (respondent/model) was found on 8- to 9-year-old children's self-worth, when controlling for self-worth before seeing the ad (Table 3, part A). A significant interaction does occur, which shows that there is indeed no effect of the perceived attractiveness of the model on girls' evaluations of their own self-worth (b = .04, β = .09, SE = .07, $t(70)$ = .64, p = .53), but that a negative relationship is found between attractiveness ratings and general self-worth for 8- to 9-year-old boys, controlling[5] for general self-worth before seeing the ad (b = -.22, β = -.43, SE = .09, $t(70)$ = -2.52, p < .05).

Perceived model attractiveness, nor gender, nor their interaction effect had a significant influence on 8- to 9-year-old children's perceptions of their physical appearance after seeing the ad, as measured by "Are you happy with the way you look?" and "Are you pleased with your body?", when controlling for these item measured before seeing the ad.

4.5.4. Advertising effectiveness

A linear regression analysis examined the effect of perceived model attractiveness, gender and their interaction on advertising effectiveness whilst controlling for "previous product experience" and "attitude towards the product category". Perceived model attractiveness increases attitudes toward the ad and purchase intentions, yet no gender effects are found, nor are there interaction effects between gender and model attractiveness. This

[5] We used the post-rating as dependent variable and the pre-rating as an additional independent variable to control for self-worth before seeing the ad.

confirms H3a (Table 4, part A). These results remain similar when not controlling for "previous product experience" and "attitude towards the product category".

Since the purchase and request intention scale contained items that comprised not only purchase intention, but also for example request intention etc., the separate items of the scale were also looked at into more detail. First, factor analysis showed that the four items of the scale could be attributed to one factor, which also supports the use of the scale in the study. Additionally, we also examined the effect of perceived model attractiveness on each of the individual items. As can be seen in table 4, part A, all individual items of the purchase intention scale are also positively related to perceived model attractiveness for 8 to 9 year old children. Perceived model attractiveness therefore relates to children's increased interest in buying the pencil case, buying it at a store if children have enough pocket money, and also increases children's likelihood of asking the pencil case as a present for their birthday and choosing it if they were allowed to select one item in a store.

We also found interaction effects between gender and perceived model attractiveness on two items of the purchase and request intention scale. Gender marginally significantly moderated the relation between perceived model attractiveness and children's willingness to "buy the pencil case with their pocket money" (b = -.40, SE = .22, $t(67)$ = -.24, p = .08). This relation is only present for girls (b = .50, SE = .13, $t(67)$ = 3.92, p < .01) and not for boys (b = .11, SE = .18, $t(67)$ = .58, p = .57). The main effect of gender additionally shows that girls have a marginally significant higher willingness to buy this product with their pocket money than boys do (b = -.57, SE = .32, $t(68)$ = -1.77, p = .08).

Gender also moderates the relation between perceived model attractiveness and children's willingness to ask the pencil case as a gift for their birthday (b = -.48, SE = .19, $t(68)$ = -2.52, p < .05). The relation between perceived model attractiveness and willingness to ask the pencil case as a gift is again only present for girls (b = .45, SE = .11, $t(68)$ = 4.11, p < .01), not for boys (b = -.02, SE = .16, $t(68)$ = -.14, p = .89).

The results for the individual purchase intention items remain similar when not controlling for "previous product experience" and "attitude towards the product category", except that gender no longer moderates the relation between perceived model attractiveness and the willingness to buy the pencil case at a store if the child had enough pocket money (b = -.35, β = -.21, SE = .22, $t(70)$ = -1.59, p = .12).

5. Study 2

5.1. Participants

In study 2, 4 respondents (i.e., 6,56 % of the respondents) were removed from the analyses, because they did not belong to the suggested age group. Eventually, 57 respondents of 12- to 13-year-old participated (49% girls, M_{age} = 13, SD_{age} = 0.43). Children within this age range were selected, because they represent children that are capable of high order reasoning (Piaget, 1964). All children were recruited in the same school in the Dutch speaking part of Belgium. This school was located in the same middle-sized city as one of the schools in study 1.

5.2. Design and stimuli

Consistent with study 1, we used a between-subjects 2 (gender: female/male participant and model) x 2 (attractiveness model: less/moderately attractive) design in which children were randomly confronted with an ad using a same-sex moderately attractive or less attractive model of their own age group. Again, for the moderately attractive condition, a “regular”, unaltered picture of the model was used, while for the less attractive model, the model was made less attractive by changing facial characteristics using Photoshop.

5.3. Pretest

A pre-test, using a within-subjects design with repeated measures ANOVA (N = 11, 46% girls, M_{age} = 14, SD_{age} = 1.69), showed that the "moderately attractive” and “less attractive” models were identified as such (F(1,10) = 40.46, SE = .30, p < .01). Contrast effects indicate that the moderately attractive models were found to be significantly (Boys: F(1,10) = 25.43, SE = .42, p < .01; Girls: F(1,10) = 26.94, SE = .33, p < .01) more attractive (Boys: M = 3.45, SD = 1.04; Girls: M = 3.64, SD = 0.81) than the less attractive models (Boys: M = 1.36, SD = 0.67; Girls: M = 1.91, SD = 0.54), as measured by the item “Do you think this child is attractive?”, ranging from “(1) NO, absolutely not!!!” to “(5) YES, absolutely!!!”.

The female and male moderately attractive models did not differ in level of attractiveness (F(1,10) = .31, SE = .33, p = .59). There was a marginally significant difference for the less attractive models, however. The less attractive male model was perceived as less

attractive than the less attractive female model ($F(1,10) = 6.92$, $SE = .21$, $p < .05$). In line with expectations, we did find that the less attractive female model was less attractive than the moderately attractive male model ($F(1,10) = 15.71$, $SE = .39$, $p < .01$) and that the female attractive model was more attractive than the less attractive male model ($F(1,10) = 69.44$, $SE = .27$, $p < .01$).

The advertised product in study 2 was a new Wii game, i.e., "Wii Around the world", which was especially developed for this study and was shown in the ads for girls and boys, since previous research indicated that videogames are rather gender neutral (Van de Sompel, Vermeir, & Pandelaere, 2012). Children specified a Wii game as gender-neutral when they were asked to rate the product on a five-point scale, ranging from "(1) only for boys" to "(5) only for girls" since the mean ($M = 2.82$, $SD = 0.41$) did not differ from the value "3" which signified "for both boys and girls" ($t(10) = -1.49$, $p = .17$). Pretesting also showed that a Wii game is not perceived as a beauty product ($M = 1.55$, $SD = 0.69$). This item was evaluated by asking children if a Wii game is used to make a person pretty, which they indicated on a five-point scale ranging from "(1) NO!!!, (2) No, (3) In between, (4) Yes to (5) YES!!!".

Pretesting showed that the product was in fact unknown to the respondents when they were asked if they saw this game before, on a scale ranging from "NO!!!" to "YES!!!" ($M = 1.82$, $SD = 1.17$). No gender differences occurred for prior knowledge of the Wii game ($t(9) = -.45$, $p = .66$; Boys: $M = 1.67$, $SD = 1.21$; Girls: $M = 2$, $SD = 1.23$).

We additionally compared evaluations of boys and girls for the specific Wii game by asking children (1) if they liked the specific Wii game and (2) if they would like to play the game. They evaluated both on one-item five-point scales ranging from "NO!!!" to "YES!!!". The pretest showed no gender differences in "liking" of this game ($t(9) = .59$, $p = .57$; Boys: $M = 3.50$, $SD = 1.05$; Girls: $M = 3.20$, $SD = 0.45$) or in willingness to play the game ($t(9) = .98$, $p = .35$; Boys: $M = 3.67$, $SD = 1.03$; Girls: $M = 3.00$, $SD = 1.23$).

5.4. Measures and Procedure

The same measures and procedure are used as in study 1 (for a full overview see appendix A). The children in this study received different answer possibilities than the youngest children in study 1. They answered on a five-point scale, for which each answer possibility only had verbal anchor points ranging from (1) "No, not at all", (2) "No, not really", (3) "In between", (4) "Yes, somewhat" to (5) "Yes, absolutely." The non-verbal

anchor points that were used in the first study were not added due to the target age of this study. No difficulties in filling out the questionnaire due to the use of these verbal anchor points were reported.

Reliability analysis indicated coefficient alphas within the acceptable range for all measures: attitude towards the ad (α = .72; *M* = 2.70; *SD* = 0.91), purchase intention (α = .86; *M* = 2.22; *SD* = 0.95), self-worth before being exposed to the ad (α = .82; *M* = 4.25; *SD* = 0.67), perceived physical appearance before being exposed to the ad (α = .69; *M* = 4.12; *SD* = 0.79), self-worth after being exposed to the ad (α = .87; *M* = 4.07; *SD* = 0.74) and perceived physical appearance after being exposed to the ad (α = .81; *M* = 4.02; *SD* = 0.84).

Children again completed measures on model attractiveness, model characteristics (see Table 1, part B for an overview of all characteristics), previous experience with the product (*M* = 1.68; *SD* = 1.18) and liking of the product category (*M* = 4.02; *SD* = 1.17).

5.5. Results

5.5.1. Control measures

There was a main effect of the attractiveness condition ($F(1,53) = 57.39$, $SE = .20$, $p < .01$), showing that the attractive models were –regardless of gender differences- significantly more attractive (*M* = 3.53, *SD* = 0.63) than the less attractive models (*M* = 2.00, *SD* = 1.04). Although ANOVA analyses showed no significant interaction effect of gender (model and respondent) and attractiveness on the model's perceived attractiveness rating ($F(1,53) = 1.60$, $SE = .40$, $p = .21$), there was a significant main effect of gender ($F(1,53) = 15.46$, $SE = .20$, $p < .01$) on the attractiveness ratings indicated that girls overall evaluated the female model as more attractive (*M* = 3.21, *SD* = 1.03) than boys evaluated the male model (*M* = 2.41, *SD* = 1.12). Consistent with the procedure described in study 1, the attractiveness measure was therefore used.

Results indicate that overall, children were not familiar with the product shown in the ad (boys: *M* =1.86, *SD* = 1.27; girls: *M* = 1.50, *SD* = 1.07), and no gender differences were found in previous knowledge about the product ($t(55) = -1.16$, $p = .25$). Both boys and girls were asked to indicate whether they liked Wii games in general. Results showed marginally significant gender differences in liking for Wii games ($t(54) = -1.75$, $p = .09$), with higher scores for girls (*M* = 4.29, *SD* = 0.98) than for boys (*M* = 3.75, *SD* = 1.30).

5.5.2. "What is beautiful is good" stereotype

Multivariate linear regression analysis was used to test the relation between several model characteristics as dependent variables and the attractiveness of the model (mean centered), gender (respondent and model) and their interaction term as independent variable in a second step of the analysis. Results show that the PA stereotype is also true for children of 12 to 13 years old for most of the model characteristics (Table 2 part B), except for "being smart", "being helpful" and "being honest". There is marginally significant relation between the model's attractiveness ratings and "following the rules" and "sharing stuff". "Following the rules" and "paying attention in class" is negatively related to perceived model attractiveness.

For 12- to 13-year-olds, there are gender differences to be found in the model characteristics. Girls evaluate the female models better on "being friendly", "being kind", "being smart", "being helpful", "paying attention in class", "following the rules" and "being honest" than boys evaluate the male models, whereas boys evaluate the male model as marginally significantly better at sports than girls evaluate the female model (Table 2, part B).

Two marginally significant interaction effects between gender and perceived attractiveness indicate that the effect of attractiveness on "being helpful" is true for boys (b = .30, SE = .13, $t(48) = 2.23$, $p < .05$) but not for girls (b = -.08, SE = .16, $t(48) = -.53$, $p = .60$) and that "having a lot of friends" is marginally significantly more linked to attractiveness for boys (b = .75, SE = .12, $t(48) = 6.44$, $p < .01$) than it is for girls (b = .46, SE = .13, $t(48) = 3.31$, $p < .01$).

5.5.3. Self-Worth and Physical Appearance

For children of 12 to 13 years old, regression analysis showed no significant relation between attractiveness, gender or their interaction and children's self-worth, when controlling for their level of self-worth before seeing the ad. Similarly, perceived attractiveness of the advertising model had no significant influence on children's physical appearance, when controlling for physical appearance before seeing the ad (Table 3, part B).

5.5.4. Advertising effectiveness

Results show that for 12- to 13-year-old children, attractiveness in models does not relate to attitudes toward the ad or purchase intentions for the advertised Wii game whilst

controlling for “previous product experience” and “attitude towards the product category”. There is also no relation between model attractiveness and gender, nor is there an interaction between gender and attractiveness (Table 4, part B). These results remain similar when not controlling for “previous product experience” and “attitude towards the product category”.

The separate items of the purchase intention scale were again examined more closely, since this scale contained items that comprised not only purchase intention, but also for example request intention. Factor analysis showed that the four items of the scale could be attributed to one factor, making it valid to use the scale. Additionally, we also examined the effect of perceived model attractiveness on each of the individual items. As can be seen in table 4, part B, none of the individual items of the purchase intention scale are related to perceived model attractiveness for 12 to 13 year old children, nor are there any interaction effects between gender and perceived model attractiveness. The attractiveness of an advertising model therefore does not relate to children’s increased interest in buying the product, interest in buying the game at a store if children have enough pocket money, asking it as a present for their birthday or choosing it in a store. These results for the individual items of the purchase intention scale remain similar when not controlling for “previous product experience” and “attitude towards the product category”.

6. Discussion

6.1. Discussion of results

Children are exposed to beauty and attractiveness in advertisements on a regular basis, which necessitates more insights in the impact attractiveness in advertising might have on children (Bijmolt, Claassen, & Brus, 1998). The results presented in this paper confirm the “what is beautiful is good” stereotype for children of 8 to 9 and 12 to 13 years old, supporting hypothesis 1. In both age groups, attractiveness was positively related to evaluations of characteristics that had a link with attractiveness and popularity (e.g., “being friendly”, “being kind”, “being cheerful”, “having a lot of friends”, “being trustworthy” etc.), which confirms previous research with adults relating attractiveness to popularity (Boyatzis et al., 1998).

Attractiveness of a peer model was also related to positive life outcomes attributed to the models, since both age groups think more attractive models are happier, which is likewise consistent with research with adults (e.g., Dion et al., 1972; Evans, 2003).

In both age groups, attractiveness also predicted characteristics that are seemingly unrelated to attractiveness, like “being good at sports”, “sharing toys/stuff”, “having a lot of toys/stuff”, “not leaving the table without finishing a meal” and “liking all kinds of food”. This indicates that the PA stereotype is prevalent for children for a wider range of characteristics then is usually assumed and also holds for older children for normal looking attractive peer models.

Some characteristics only popped up as being related to attractiveness for the 8- to 9-year-old children, for example “being helpful” and “being honest”. Children of 8- to 9-year-old also related characteristics like “being smart” to attractiveness while 12- to 13-year-old children did not, and the older group even related “paying attention in class” and “following the rules” negatively to attraction. These three characteristics are not surprisingly also factors that relate to obedient and “respectable” behavior, which might not necessarily be attractive for children who are entering their teenage years. Studies even found that when students are labeled as “nerds”, they receive less favorable evaluations from their peers when they display their school effort (Rentzsch, Schütz, & Schröder-Abé, 2011). This also shows that children of 12 to 13 years old are already showing perceptions that are consistent with adults, since previous studies show that for adults, beauty is weakly or negatively related to intelligence (Smith et al., 1999). Rule following and paying attention in class have been less often looked at in other studies, but our paper finds that they are related to intelligence inferences.

In this paper, boys of both age groups attributed more characteristics to attractive models (8- to 9-year-old boys: being good at sports and being happy; 12- to 13-year-old boys: being helpful and having a lot of friends) than girls of that age do. Only a few previous studies reflect upon this finding and would actually rather support interaction effects occurring for girls. For example, in some studies attractiveness was equally important for males and females (Eagly et al. 1991), while in other studies, the PA stereotype was even stronger for female models (Van Leeuwen & Macrae, 2004). The fact that our paper shows that boys rate attractive people more positive on other characteristics than girls do indicates that the “what is beautiful is good” principle is not necessarily strongest for girls. To establish underlying processes for this finding, further research is, however, necessary.

We also show that older girls in general attribute more positive characteristics to the female models than boys do for the male model. Girls believe the model is friendlier, kinder, smarter, more helpful, more honest and also believe that she pays more attention in class and

follows the rules more. These results can be interesting for the existing streams of research on gender differences. Our findings are similar to results of Costa, Terracciano, and McCrae (2001) and McCrae et al. (2002), who examined general gender differences in self-reported personality inventories. They showed that girls actually score higher on neuroticism, agreeableness, warmth, and openness to feelings (Costa et al., 2001), which can be related to the specific characteristics in our study. This could imply that woman not only evaluate themselves as having these characteristics more, but that girls as young as 12 to 13 years old also attribute these characteristics to other females.

Our results also show that self-perception is sometimes negatively influenced by attractive advertising models. High perceptions of attractiveness are associated with lower self-worth for 8- to 9-year-old boys, while self-worth of 8- to 9-year-old girls and children of 12 to 13 years old is not affected by perceptions of attractiveness. This is relevant to academic literature for several reasons. First, current literature about the effect of advertising exposure on self-esteem often focuses on females and (pre)adolescent girls (Jones, 2001). For boys, however, literature is relatively scarce. Common beliefs have it that men are in some way less negatively affected by attractive portrayals of models in media than women are, but we show that this is not the case for boys of 8 to 9 years old .

Literature often uses exposure to highly attractive models to explain the effects of social comparison on body image, but our study employed moderately attractive models instead of the more frequently investigated highly attractive and idealized models. Boys and girls might be differently impacted by exposure to peer or idealized (celebrity) models. In the literature overview of Martin and Gentry (1997), indications are given about woman's propensity to compare themselves with models in ads. Jones (2001), on the other hand, shows that boys more often see same-sex peers as comparison targets than models. This might explain why their self-worth is negatively impacted by higher evaluations of the perceived attractiveness of same-sex peers. Possibly, for boys, the moderately attractive peers we used in our ads were a potential source of comparison, whereas idealized models are not seen as possible social comparison targets for boys of that age. For girls, on the other hand, idealized models might be more valid social comparison targets. When they see same-sex moderately attractive peer models, they might not evaluate or compare themselves with these models, which could mean that it doesn't harm their own self-worth.

Another possible explanation for the finding that boys self-worth is lowered after seeing models they perceive as more attractive is that they might simply be less used to advertising with idealized models. Ogletree et al. (1990) showed that advertising to children puts more emphasis on female than male appearance enhancement. This could indicate that girls are used to see attractive models in ads and might be accustomed to it. Boys might not be and might therefore be more susceptible to comparison with models in ads at this particular age in the occasion they do see advertisements with male models.

If future research confirms that model attractiveness is harmful for 8- to 9-year-old boys' self-worth, the drivers behind these effects should be examined. We can for example wonder why exposure to attractive models causes shifts in self-worth and examine which motives, such as for example the ones defined by Martin and Gentry (1997) are at the basis of these self-evaluations. Future insights are also needed to see why gender differences exist and if children with high (versus low) self-perceptions respond differently to advertising stimuli and also whether self-worth is temporarily or enduringly reduced.

Research with adults generally shows that an attractive (versus less attractive) model results in higher message effectiveness. Most studies, however, use products that are in some way related to beauty and attractiveness (e.g., Martin & Gentry, 1997) because for adults, products that do not relate to attractiveness usually do not benefit from advertisements with attractive endorsers. Kamins (1990) and Parekh and Kanekar (1994) for example show that the effect of attractive endorsers is bigger for products related to beauty compared to non-beauty related products. Because younger children are not yet fully grasping all of the developmental skills necessary to understand that a product-endorser match-up might be of importance, we tested a non-beauty related product in our paper.

Our results do show that, for 8- to 9-year-old children, an attractive (versus less attractive) model results in higher message effectiveness as measured by attitude towards the ad and purchase intention for the non-beauty related product. We also see that gender moderates the effect of perceived model attractiveness for two of the items of the purchase intention scale. Girls would buy the product in the store if children had enough pocket money and ask the pencil case as a birthday gift more when they perceive that model as more attractive, while this effect is not there for boys. These results are consistent with previous studies that indicate that children between 7 and 10 have low ability and motivation to process arguments in advertising and have a lower ability to focus on relevant attribute information

(Davidson, 1991; Wartella et al., 1979), making peripheral information (such as model attractiveness and match-up between product and endorser) more important (Petty & Cacioppo, 1986). For children of 12 to 13 years old, exposure to attractive advertising models that promoted a non-beauty related product, did not engender higher advertising effectiveness (as measured by attitude towards the ad and purchase intention). We believe these pre-adolescents are already showing similarities with adults, as they do not relate model attractiveness to their ad preferences. Future research should examine if the dissimilarities in match-up between characteristics of the endorser and characteristics of the product are important in making these evaluations.

6.2. Policy implications

Results indicate some important implications for consumer policy. We suggest several elements public policy makers, marketers and caretakers could undertake to take these results into account. Based on our research, we suggest that policy makers limit the effects of using attractive models in advertising to children. We suggest actions are taken especially for younger boys, since their self-worth could be decreased by using attractive models but also to young girls since their advertising attitudes and behavioral intentions are determined by these ads. The use of idealized models is often related to a decreased self-image but we show that this effect is even there for ads that do not contain idealized images (but instead use regular pictures of peer models) – at least for boys of 8 to 9 years old . We also want to note that older girls and boys, although they do think that good things are also associated with moderately beautiful people, are not influenced in terms of attitudes and intentions by moderately attractive models. This implies that, as children get older and their cognitive capacities increase, they are less influenced by the attractiveness of models. This suggests that the influence of attractiveness might be reducing with increasing age.

Policy measures and caretakers should inform children about the stereotype and make them aware of the possible effects of it, especially since the stereotype is learnt early on and extends to moderately attractive peer models. Young children are influenced by their perceptions of beauty-goodness link, and we even found that 12 to 13 year olds still attribute positive characteristics to attractive models. It therefore remains important that public policy invalidates the PA stereotype. If children learn at an early age that good things not only happen to attractive people, but rather that good things can be associated with people with all

kinds of physical appearances, the PA stereotype could become less strong on an earlier age and exposure to attractive models could affect children's self-perceptions and behavior less.

There have already been initiatives that tap into this need for sensibilisation. Europe, for example, launched specific initiatives on consumer education, in which the integration of beauty stereotypes might also be implemented. In 2012, the European Commission started the European Consumer Agenda, a strategic vision on the growth of consumer policy in the next years in line with Europe's growth strategy (Europe 2020). This agenda also presents measures taken to empower consumers and boost their trust (European Commission, 2012). To improve consumer education and consumer knowledge, diverse initiatives were launched, among which "the consumer classroom", a website aimed at teachers from secondary schools where teachers can share class material about topics that encourage consumer education for 12 to 18 year old students[6]. In Belgium, "Vlaamse Kenniscentrum Mediawijsheid"[7] tries to inform and educate people about media, also for example by providing examples schools can use to inform children about the effects of media. Despite these initiatives, we suggest more intensified measures to reach children at a younger ages and also suggest to focus on both the intended effects advertising might have (such as purchase intentions) as well as on the unintended effects (such as detrimental self-worth). Especially elementary school children should be made more consumer and media literate by incorporating attractiveness stereotypes in their education and by implying these consumer education programs earlier on.

Second, public policy makers might play a more active role in reducing the stereotype by imposing regulations and laws that limit the use of it. Media could be encouraged, for example, to make variations in the link between attractiveness and goodness and to not always link unattractiveness with immoral behavior. In this way, policy measures could invalidate the stereotype by regulating the instances in which the physical attractiveness stereotype is strengthened (for example, movies, TV shows). In 2013, this specific topic caused media commotion for Disney and their successful movie "Brave". Merida is the protagonist of the movie and one of the most atypical princesses of the Disney series because she is a princess that originally had observable imperfections, but was goodhearted. Disney decided to launch a

[6] The Consumer Classroom, launched in 2013: http://www.consumerclassroom.eu/

[7] Vlaamse Kenniscentrum voor Mediawijsheid, launched in 2013 by the Flemish Government and iMinds Media: https//mediawijs.be/

new toy line and redesigned princes Merida into a better looking and more attractive version of herself. Common perception was that Disney confirmed the attractiveness stereotype with this act, instead of trying to tackle it, by transforming an atypical princess into a princess that confirmed stereotypes. Although the general public is aware of this attractiveness stereotype and reacts to these frequent exposures to the stereotype, relatively little policy actions are currently undertaken to support this and to invalidate the stereotype.

Third, we believe that policy focus on overall media effects on children should be broadened. A lot of emphasis lies on the impact of media in the establishment of the "thin ideal" for woman or the "muscular body ideal" for men (Flament et al., 2012). The thinness ideal, however, is only one aspect of current beauty ideals. Results of our studies suggest that attention should also go out to other types of stigmatization and stereotyping, such as beauty cues that are unrelated to weight or muscles, but related to facial attractiveness. We show that, even though our ads did not contain idealized images related to the thin or the muscular ideal, the influence of attractiveness of models is still possible when using more realistic models, especially for younger boys and girls. Attention should also go to the level of attractiveness of the advertised models, since we find different effects of exposure to moderately attractive models on boys' and girls' self-worth and self-perception.

A last policy implication that can be considered is that policy makers might need to intensify their efforts to reduce the negative media effects specifically for younger boys. Media coverage and academic research about idealized models especially focus on the effects on woman and female adolescents, instead of men or boys (Blond, 2008). Our results imply that boys of 8 to 9 years old should not be neglected in the attempt to reduce negative media effects. Since the body image differs across gender (McCabe & Ricciardelli, 2003) and boys have different comparison targets (Jones, 2001), we believe it to be essential for public policy to initiate more educational and regulatory activities directed towards reducing these effects.

6.3. Limitations and future research

Some limitations arise in the present research. First of all, due to the difficulty of reaching this specific age groups, small sample sizes are reported – specifically for the pretests and study 2. Also, as discussed above, we want to stress that boys of 8- to 9-year-old did not evaluate the models' level of attractiveness as we intended. Pretesting did show that the attractive models were perceived as more attractive than the less attractive models, but

nevertheless, because of this failed manipulation in the first study we cannot definitely conclude that the effects described are causal ones. Since within-subjects designs were used in the pretest, it is possible that boys simply see and notice attractiveness differences when they can compare different model's attractiveness, but that boys of this age might not use this when they evaluate one person at a time in between-subjects designs. Also, perceptions of attractiveness are individual and it is therefore difficult to find an example of a model that is generally considered as attractive. Therefore, we considered attractiveness ratings of the models as indicated by the respondents in our analyses instead of the original manipulated conditions.

By using children's own attractiveness ratings, we are also facing another limitation, namely that the attractiveness ratings and the source characteristics are only correlational. We can also not exclude positive affirmation bias for our youngest group of children (although there are studies in which children of 4-5 years old have already outgrown this (e.g., Fritzley & Kang, 2003), nor can we exclude that the relation works the other way around and that children infer good looks from positive personality characteristics (a concern that is also put forward by Eagly et al. (1991)), which would relate to the general halo-effect, but not to the specific "what is beautiful is good" stereotype.

In this study, each child saw an advertisement with a same-sex model. This technique has been used in previous studies, and research with adults suggests that gender of the model does not affect the link between attractiveness and persuasion (Praxmarer, 2011), but still this choice might rule out important conclusions about exposure to advertising models that are of different sexes. Girls and boys might use different norms and values to evaluate the attractiveness of male or female advertising models across gender.

Because we used products in the ads that were adjusted to the age groups there might be more differences between Study 1 and Study 2 that are not related to age alone. The findings might be attributed to, for example, the type of product, since study 1 tested an ad for a pencil case and study 2 tested an ad for a Wii game. We have deliberately used different products for the two different age groups because children of different ages like different products. To control for possible differences associated with the products, we pretested whether the products were known, whether products were associated with beauty, and whether gender differences occurred in general evaluation of the product. Despite these efforts, differences remain eminent and further research is needed to further confirm our results.

Several other opportunities for future research arise. We selected children between 8 and 13 years old to account for differences in cognitive development. Nevertheless, insights on this effect across different age ranges might contribute to understanding the developmental factors underlying the effect. Children below 7 years old, for example, are not capable of viewing advertising from the advertiser's perspective (persuasive intent) (Blosser & Roberts, 1985; Kelly, 1974; Robertson & Rossiter, 1974; Ward et al., 1977). The absence of knowledge of persuasive intent could lead to an even higher influence of model attractiveness of attitudes and behavior of children who have not yet reached the analytical stage.

van der Deen et al. (2011) show that idealized (extremely attractive) models in beauty advertising have a slightly positive influence on the self-image of 10-13 year-old girls, when these girls were induced with media awareness and have internalized the Western beauty ideal. Media awareness can thus protect children from the effects of exposure to idealized media images. We used non-idealized attractive models in our ads. Future research can identify if increasing media awareness also enhances self-image of 10-13 year-old girls/boys and other age groups when using non-idealized attractive models.

Existing literature provides limited insights in the effects of exposure to attractive models on children's self-perception. This paper gives an indication that children's reactions to these types of stimuli are different than those of adults, and even older children. Study 1 specifically shows that gender differences can occur early on and should form a more extensive topic of interest for both academics and policy makers. Most regulating instances and pressure groups, for example, concentrate their work on the exposure to thin ideals in advertising exposure of girls and women. Our study at least shows that young boys deserve more attention, as it is generally believed that they are less affected by these types of media exposure, while they could suffer from deteriorated self-perception after watching attractive peer models. Our study also suggests a more detailed distinction between ages, since social comparison and physical changes depend on the specific dynamics associated with the development of children. Martin and Gentry (1997) show that self-esteem and perceptions of self-attractiveness of female fourth and sixth graders can be lowered by beauty of models, especially when they are self-evaluating. Fourth graders are also negatively influenced by beauty of models when they are self-enhanced by discounting the beauty of the models suggesting that the motives children hold could explain effects of beauty of models on self-perception. Future research should measure motives to enhance our knowledge on the effects of model beauty on self-perceptions.

6.4. Conclusion

As mentioned in the introduction of this paper, its contribution is threefold: (1) we have gained knowledge on the PA stereotype in two different age groups by showing that children of 8 to 9 and 12 to 13 years old attribute other characteristics to non-idealized attractive peer models. In doing so, we also differentiate from previous studies in different ways. First, we used moderately attractive (versus unattractive) advertising models instead of highly attractive or idealized models and advertised a non-beauty product. Second, contrary to some previous studies who used exposure to adult models (Bazzini et al., 2010), this study portrays same-age peer models. Third, we assessed a range of characteristics to relate to attractiveness of the model, whereas previous studies only used a few items per study (Bazzini et al., 2010; Dion et al., 1972). (2) The second contribution of this study is that it adds to the knowledge on the influence of attractive (versus less attractive) peer models on the self-perception of children by showing that, for our sample, self-worth of 8- to 9-year-old boys is influenced by looking at moderately attractive models in ads, while self-perception and perceived physical attractiveness of girls and older children is not influenced. (3) We added to research on the effects of using attractive models in advertising by showing that for children of 8 to 9 years old, attitudes and purchase intention are in fact impacted by model attractiveness.

		PARTA 8- to 9-year-olds			PART B 12- to 13-year-olds		
		N	*M*	*SD*	*N*	*M*	*SD*
Friendly	*Girls*	36	3.69	1.26	27	4.07	0.68
	Boys	39	2.97	1.25	29	3.34	0.81
Kind	*Girls*	36	3.39	1.57	28	4.04	0.69
	Boys	38	2.66	1.36	29	3.28	0.59
Good At sports	*Girls*	36	2.89	1.12	26	3.04	0.87
	Boys	39	2.85	1.48	28	3.14	1.18
Happy	*Girls*	35	4.11	1.23	27	3.78	0.93
	Boys	39	3.44	1.60	29	3.38	1.05
Cheerful	*Girls*	35	4.11	1.30	27	3.70	0.91
	Boys	38	3.42	1.62	29	3.34	0.90
Smart	*Girls*	35	3.20	1.28	26	3.81	0.63
	Boys	38	2.66	1.32	29	3.03	0.91
Helpful	*Girls*	35	3.43	1.27	26	3.65	0.75
	Boys	38	2.84	1.31	29	2.72	0.84
Pays Attention in class	*Girls*	36	3.11	1.12	27	3.81	0.79
	Boys	39	2.69	1.26	28	3.00	1.31
Has A lot of toys/stuff	*Girls*	35	3.49	1.34	26	3.27	0.92
	Boys	39	2.87	1.42	28	2.93	1.09
Trustworthy	*Girls*	36	3.17	1.34	25	3.48	0.92
	Boys	38	2.71	1.49	29	2.97	0.82
Follows the rules	*Girls*	36	3.36	1.05	26	3.62	0.90
	Boys	39	3.03	1.50	28	3.21	1.10
A lot of friends	*Girls*	36	3.42	1.16	26	3.35	0.75
	Boys	39	2.79	1.40	29	3.00	1.10
Shares toys/stuff	*Girls*	36	3.00	1.33	27	3.44	0.75
	Boys	38	2.45	1.39	29	2.90	0.82
Honest	*Girls*	34	3.68	1.22	26	3.69	0.79
	Boys	38	2.71	1.31	29	3.07	0.75
Doesn't leave the table without finishing meal	*Girls*	35	2.86	1.03	25	3.56	0.65
	Boys	38	2.47	1.27	28	2.96	1.17
Likes All kinds of food	*Girls*	36	2.81	1.14	26	3.35	0.89
	Boys	39	2.56	1.25	28	3.07	0.90

Table 1. Overview mean values of model characteristics

		PARTA 8- to 9-year-olds						PART B 12- to 13-year-olds					
		B	*SE*	*t*	*F (df)*	*p*	η^2	*B*	*SE*	*t*	*F (df)*	*p*	η^2
Friendly	Gender	.11	.29	.38	.14 (1,63)	.71	0.00	**.53**	**.21**	**2.54**	**6.47 (1,49)**	**<.05**	0.12
	Attractiveness	**.52**	**.10**	**5.46**	**29.80 (1,63)**	**<.01**	0.32	**.29**	**.09**	**3.20**	**10.22 (1,49)**	**<.01**	0.17
	Gender*Attractiven	-.08	.20	-.41	.17 (1,62)	.68	0.00	-.13	.19	-.72	.52 (1,48)	.48	0.01
Kind	Gender	-.03	.32	-.09	.01 (1,63)	.93	0.00	**.41**	**.16**	**2.61**	**6.82 (1,49)**	**<.05**	0.12
	Attractiveness	**.62**	**.11**	**5.88**	**34.53 (1,63)**	**<.01**	0.35	**.34**	**.07**	**5.06**	**25.63 (1,49)**	**<.01**	0.34
	Gender*Attractiven	.11	.22	.51	.26 (1,62)	.61	0.00	.16	.14	1.16	1.34 (1,48)	.25	0.03
Good at sports	Gender	-.48	.31	-1.58	2.49 (1,63)	.12	0.04	**-.53**	**.27**	**-1.98**	**3.92 (1,49)**	**.05**	0.07
	Attractiveness	**.44**	**.10**	**4.37**	**19.11 (1,63)**	**<.01**	0.23	**.50**	**.12**	**4.28**	**18.32 (1,49)**	**<.01**	0.27
	Gender*Attractiven	**-.72**	**.19**	**-3.74**	**14.02 (1,62)**	**<.01**	0.18	-.26	.23	-1.13	1.27 (1,48)	.27	0.03
Happy	Gender	-.03	.32	-.10	.01 (1,63)	.92	0.00	.06	.28	.20	.04 (1,49)	.84	0.00
	Attractiveness	**.61**	**.11**	**5.80**	**33.60 (1,63)**	**<.01**	0.35	**.39**	**.12**	**3.18**	**10.13 (1,49)**	**<.01**	0.17
	Gender*Attractiven	**-.44**	**.22**	**-2.03**	**4.13 (1,62)**	**.05**	0.06	-.12	.25	-.49	.24 (1,48)	.63	0.00
Cheerful	Gender	.07	.34	.20	.04 (1,63)	.85	0.00	.09	.26	.36	.13 (1,49)	.72	0.00
	Attractiveness	**.53**	**.11**	**4.78**	**22.83 (1,63)**	**<.01**	0.27	**.33**	**.11**	**2.99**	**8.93 (1,49)**	**<.01**	0.15
	Gender*Attractiven	-.25	.23	-1.09	1.19 (1,62)	.28	0.02	.12	.23	.55	.30 (1,48)	.59	0.01
Smart	Gender	.12	.33	.36	.13 (1,63)	.72	0.00	**.86**	**.24**	**3.59**	**12.88 (1,49)**	**<.01**	0.21
	Attractiveness	**.40**	**.11**	**3.66**	**13.41 (1,63)**	**<.01**	0.18	-.08	.10	-.73	.53 (1,49)	.47	0.01
	Gender*Attractiven	-.03	.23	-.11	.01 (1,62)	.91	0.00	-.15	.21	-.70	.50 (1,48)	.48	0.01
Helpful	Gender	-.18	.30	-.58	.34 (1,63)	.56	0.01	**.80**	**.24**	**3.36**	**11.26 (1,49)**	**<.01**	0.19
	Attractiveness	**.48**	**.10**	**4.77**	**22.80 (1,63)**	**<.01**	0.27	.14	.10	1.31	1.72 (1,49)	.20	0.03
	Gender*Attractiven	-.22	.21	-1.07	1.15 (1,62)	.29	0.02	**-.38**	**.21**	**-1.86**	**3.45 (1,48)**	**.07**	0.07
Pays Attention in class	Gender	-.16	.27	-.60	.36 (1,63)	.55	0.01	**1.09**	**.31**	**3.50**	**12.23 (1,49)**	**<.01**	0.20
	Attractiveness	**.48**	**.09**	**5.32**	**28.34 (1,63)**	**<.01**	0.31	**-.33**	**.14**	**-2.45**	**6.00 (1,49)**	**<.05**	0.11
	Gender*Attractiven	-.04	.19	-.21	.05 (1,62)	.83	0.00	.23	.27	.84	.71 (1,48)	.40	0.01
Has A lot of toys/stuff	Gender	.13	.34	.38	.15 (1,63)	.70	0.00	.15	.28	.52	.27 (1,49)	.61	0.01
	Attractiveness	**.42**	**.11**	**3.72**	**13.86 (1,63)**	**<.01**	0.18	**.33**	**.12**	**2.72**	**7.38 (1,49)**	**<.05**	0.13
	Gender*Attractiven	-.27	.23	-1.16	1.34 (1,62)	.25	0.02	-.09	.25	-.35	.12 (1,48)	.73	0.00
Trustworthy	Gender	-.01	.34	-.04	.00 (1,63)	.96	0.00	.34	.25	1.37	1.88 (1,49)	.18	0.04
	Attractiveness	**.49**	**.11**	**4.37**	**19.06 (1,63)**	**<.01**	0.23	**.25**	**.11**	**2.26**	**5.09 (1,49)**	**<.05**	0.09
	Gender*Attractiven	.18	.23	.75	.56 (1,62)	.46	0.01	-.26	.22	-1.19	1.41 (1,48)	.24	0.03
Follows the rules	Gender	-.09	.33	-.29	.08 (1,63)	.77	0.00	**.60**	**.29**	**2.03**	**4.13 (1,49)**	**.05**	0.08
	Attractiveness	**.41**	**.11**	**3.80**	**14.44 (1,63)**	**<.01**	0.19	**-.24**	**.13**	**-1.89**	**3.57 (1,49)**	**.06**	0.07
	Gender*Attractiven	-.12	.23	-.55	.30 (1,62)	.59	0.00	-.06	.26	-.22	.05 (1,48)	.83	0.00
A lot of friends	Gender	.33	.32	1.04	1.07 (1,63)	.30	0.02	-.19	.21	-.92	.85 (1,49)	.36	0.02
	Attractiveness	**.31**	**.11**	**2.88**	**8.29 (1,63)**	**.01**	0.12	**.62**	**.09**	**6.91**	**47.75 1,49)**	**<.01**	0.49
	Gender*Attractiven	-.07	.22	-.32	.10 (1,62)	.75	0.00	-.30	.18	-1.70	2.89 (1,48)	.10	0.06
Shares toys/stuff	Gender	.08	.33	.24	.06 (1,63)	.81	0.00	.38	.23	1,63	2.66 (1,49)	.11	0.05
	Attractiveness	**.39**	**.11**	**3.60**	**13.00 (1,63)**	**<.01**	0.17	**.18**	**.10**	**1.82**	**3.32 (1,49)**	**.07**	0.06
	Gender*Attractiven	.08	.23	.34	.12 (1,62)	.73	0.00	.08	.21	.37	.14 (1,48)	.71	0.00
Honest	Gender	.40	.26	1.50	2.26 (1,63)	.14	0.03	**.58**	**.23**	**2.48**	**6.15 (1,49)**	**<.05**	0.11
	Attractiveness	**.55**	**.09**	**6.38**	**40.72 (1,63)**	**<.01**	0.39	.08	.10	.75	.56 (1,49)	.46	0.01
	Gender*Attractiven	.18	.18	1.00	.99 (1,62)	.32	0.02	-.03	.21	-.16	.03 (1,48)	.87	0.00
Doesn't leave the table without	Gender	.12	.31	.40	.16 (1,63)	.69	0.00	.38	.27	1.41	1.98 (1,49)	.17	0.04
	Attractiveness	**.18**	**.10**	**1.79**	**3.19 (1,63)**	**.08**	0.05	**.30**	**.12**	**2.59**	**6.71 (1,49)**	**<.05**	0.12
	Gender*Attractiven	.16	.21	.75	.56 (1,62)	.46	0.01	-.12	.24	-.51	.26 (1,48)	.61	0.01
Likes All kinds of food	Gender	.04	.32	.11	.01 (1,63)	.91	0.00	.03	.25	.10	.01 (1,49)	.92	0.00
	Attractiveness	**.20**	**.10**	**1.95**	**3.78 (1,63)**	**.06**	0.06	**.30**	**.11**	**2.78**	**7.73 (1,49)**	**<.05**	0.14
	Gender*Attractiven	-.01	.22	-.07	.00 (1,62)	.95	0.00	.03	.22	.13	.02 (1,48)	.89	0.00

Table 2. The influence of gender and source attractiveness on model characteristics

		PARTA 8- to 9-year-olds					PART B 12- to 13-year-olds				
		B	*SE*	β	*t(df)*	*p*	*B*	*SE*	β	*t(df)*	*p*
General Self-worth (POST)	Gender	-.08	.17	-.05	-.47 (67)	.64	.01	.13	.01	.09 (52)	.93
	Attractiveness	-.06	.06	-.11	-1.03 (67)	.31	.09	.06	.13	1.45 (52)	.15
	General Self-worth (PRE)	**.82**	**.13**	**.65**	**6.42 (67)**	**<.01**	**.84**	**.09**	**.77**	**8.91 (52)**	**<.01**
	Gender*Attractiveness	**-.26**	**.11**	**-.30**	**-2.39 (66)**	**<.05**	-.02	.11	-.02	-.16 (51)	.87
Physical appearance (POST)	Gender						-.03	.12	-.02	-.28 (51)	.78
	Attractiveness						.02	.05	.03	.46 (51)	.65
	Physical appearance (PRE)						**.93**	**.07**	**.89**	**13.42 (51)**	**<.01**
	Gender*Attractiveness						-.12	.10	-.12	-1.22 (50)	.23
"Are you happy with the way you look?" (POST)	Gender	.17	.26	.08	.66 (71)	.51					
	Attractiveness	.00	.09	.01	.05 (71)	.96					
	"Are you happy with the way you look?" (PRE)	**.37**	**.13**	**.33**	**2.91 (71)**	**<.01**					
	Gender*Attractiveness	.01	.19	.01	.03 (70)	.97					
"Are you pleased with your body?" (POST)	Gender	.11	.21	.06	.50 (71)	.62					
	Attractiveness	.11	.07	.19	1.63 (71)	.11					
	"Are you pleased with your body?" (PRE)	**.39**	**.10**	**.41**	**3.80 (71)**	**<.01**					
	Gender*Attractiveness	-.19	.15	-.18	-1.27 (70)	.21					

Table 3. The influence of gender and source attractiveness on self-worth and physical appearance

		PARTA 8- to 9-year-olds					PART B 12- to 13-year-olds				
		B	*SE*	β	*t(df)*	*p*	*B*	*SE*	β	*t(df)*	*p*
Attitudes toward the ad	Gender	.04	.32	.01	.11 (69)	.91	.08	.28	.05	.29 (51)	.77
	Attractiveness	**.29**	**.11**	**.33**	**2.70 (69)**	**<.01**	.20	.12	.25	1.62 (51)	.11
	Attitude product category	**.25**	**.11**	**.25**	**2.22 (69)**	**<.05**	.01	.12	.01	.04 (51)	.97
	Previous product experience	.01	.12	.01	.06 (69)	.95	-.11	.12	-.14	-.92 (51)	.36
	Gender*Attractiveness	.02	.22	.01	.07 (68)	.95	-.01	.24	-.01	-.04 (50)	.97
Purchase intention (scale)	Gender	-.20	.24	-.09	-.85 (68)	.40	-.20	.26	-.11	-.80 (51)	.43
	Attractiveness	**.38**	**.08**	**.52**	**4.88 (68)**	**<.01**	.00	.11	.00	-.03 (51)	.98
	Attitude product category	**.16**	**.08**	**.19**	**1.92 (68)**	**.06**	**.41**	**.11**	**.50**	**3.61 (51)**	**<.01**
	Previous product experience	.10	.09	.10	1.10 (68)	.28	-.07	.11	-.08	-.61 (51)	.54
	Gender*Attractiveness	-.26	.16	-.20	-1.60 (67)	.11	-.08	.22	-.07	-.35 (50)	.73
Purchase intention "Would you want to buy this pencil case (6-7) / play this game (12-13)"?	Gender	.08	.32	.03	.25 (69)	.80	-.57	.36	-.21	-1.59 (51)	.12
	Attractiveness	**.47**	**.11**	**.48**	**4.41 (69)**	**<.01**	-.01	.16	-.01	-.04 (51)	.97
	Attitude product category	**.33**	**.11**	**.29**	**2.89 (69)**	**<.01**	**.49**	**.16**	**.43**	**3.13 (51)**	**.00**
	Previous product experience	.09	.12	.07	.77 (69)	.45	.02	.15	.02	.13 (51)	.90
	Gender*Attractiveness	.07	.22	.04	.33 (68)	.74	.09	.30	.06	.31 (50)	.76
Purchase intention "Would you buy this at the store if you had enough pocket money for it?"	Gender	**-.57**	**.32**	**-.20**	**-1.77 (68)**	**.08**	-.25	.33	-.11	-.78 (51)	.44
	Attractiveness	**.37**	**.11**	**.39**	**3.47 (68)**	**.00**	.09	.14	.09	.63 (51)	.53
	Attitude product category	.16	.11	.15	1.41 (68)	.16	**.40**	**.14**	**.40**	**2.78 (51)**	**.01**
	Previous product experience	.14	.12	.11	1.13 (68)	.26	-.08	.14	-.08	-.57 (51)	.57
	Gender*Attractiveness	**-.40**	**.22**	**-.24**	**-1.79 (67)**	**.08**	-.06	.28	-.04	-.20 (50)	.84
Purchase intention "Would you ask this as a present for your birthday?"	Gender	-.17	.28	-.07	-.60 (69)	.55	.07	.32	.03	.23 (51)	.82
	Attractiveness	**.30**	**.09**	**.38**	**3.14 (69)**	**.00**	-.12	.14	-.12	-.87 (51)	.39
	Attitude product category	.06	.10	.07	.63 (69)	.53	**.47**	**.14**	**.48**	**3.28 (51)**	**.00**
	Previous product experience	.08	.11	.08	.73 (69)	.47	-.08	.14	-.08	-.59 (51)	.56
	Gender*Attractiveness	**-.48**	**.19**	**-.35**	**-2.52 (68)**	**.01**	-.14	.27	-.10	-.52 (50)	.60
Purchase intention "If you could choose one item in a store, would you choose this?"	Gender	-.13	.30	-.05	-.45 (69)	.66	-.07	.26	-.04	-.25 (51)	.80
	Attractiveness	**.39**	**.10**	**.46**	**3.96 (69)**	**.00**	.03	.11	.04	.25 (51)	.81
	Attitude product category	.09	.11	.09	.83 (69)	.41	**.28**	**.11**	**.36**	**2.40 (51)**	**.02**
	Previous product experience	.09	.11	.09	.82 (69)	.41	-.13	.11	-.17	-1.14 (51)	.26
	Gender*Attractiveness	-.23	.21	-.15	-1.09 (68)	.28	-.20	.22	-.19	-.92 (50)	.36

Table 4. The influence of gender and source attractiveness on advertising effectiveness

7. Appendix A. Scales used in studies chapter IV

7.1. Scales study 1

In addition to the scales and constructs used in the chapter children additionally also got questions about positive affective reactions towards the ad, and some general questions about the product and its category (e.g., attitude towards the brand, importance of the look of a pencil case). At the end of the questionnaire, children also received two additional scales that measured children's self-perception profile (Harter, 1985) and the six-item materialism scale for children of Opree, Buijzen, van Reijmersdal, and Valkenburg (2011). The children responded to all of the following reported the questions on a five-point scale with non-verbal anchor points indicating (1) a very sad face, (2) a sad face, (3) a neutral face, (4) a happy face and (5) a very happy face and verbal anchor points and verbal anchor points indicating (1) "NO!!!", (2) "no", (3) "In between", (4) "yes" and (5) "YES!!!".

Self-perception before seeing the ad - General Self-Worth

- Are you happy with who you are?
- Do you sometimes feel bad about yourself? (R)
- Are you satisfied with yourself?
- Would you sometimes want to be someone else? (R)
- Do you like yourself?

Self-perception before seeing the ad - Physical appearance

- Are you happy with the way you look?
- Are you satisfied with your body?

Advertising effectiveness - Attitude towards the ad

- Do you like this ad?
- Do you think this ad is stupid (R)

Advertising effectiveness - Purchase and request intention

- Would you want to buy this?
- Would you buy this pencil case at the store if you had enough pocket money for it?

- Would you ask this pencil case as a present for your birthday?
- If you could choose one item in a store, would you choose this pencil case?

Previous experience with the product

- Did you know the product before you saw this ad?

Liking of the product category

- Do you like pencil cases in general?

Attractiveness of the model

- Do you think this child is attractive?

Model characteristics

"The child in the picture …"

- Is friendly
- Is kind
- Is good at sports
- Is happy
- Is cheerful
- Is smart
- Is helpful
- Pays Attention in class
- Has A lot of toys/stuff
- Is trustworthy
- Follows the rules
- Has a lot of friends
- Shares toys/stuff
- Is honest
- Doesn't leave the table without finishing meal
- Likes All kinds of food

Self-perception after seeing the ad - General Self-Worth

- Are you happy with who you are?
- Do you sometimes feel bad about yourself? (R)
- Are you satisfied with yourself?
- Would you sometimes want to be someone else? (R)
- Do you like yourself?

Self-perception after seeing the ad - Physical appearance

- Are you happy with the way you look?
- Are you satisfied with your body?

7.2. Scales study 2

In addition to the scales and constructs used in the paper children additionally also got questions about positive affective reactions towards the ad, and some general questions about the product and its category (e.g., attitude towards the brand, how much they play Wii games etc.). At the end of the questionnaire, children also completed the self-perception profile (Harter, 1985) and the 18-item materialism scale for children of Opree et al. (2011).

The children responded to all the questions reported in the chapter on a five-point scale which had verbal anchor points ranging from (1) “No, not at all”, (2) “No, not really”, (3) “In between”, (4) “Yes, somewhat” to (5) ”Yes, absolutely.”

Self-perception before seeing the ad - General Self-Worth

- Are you happy with who you are?
- Do you sometimes feel bad about yourself? (R)
- Are you satisfied with yourself?
- Would you sometimes want to be someone else? (R)
- Do you like yourself?

Self-perception before seeing the ad - Physical appearance

- Are you happy with the way you look?
- Are you satisfied with your body?

Advertising effectiveness - Attitude towards the ad

- Do you like this ad?
- Do you think this ad is stupid (R)

Advertising effectiveness - Purchase and request intention

- Would you like to play this game?
- Would you buy this game at the store if you had enough pocket money for it?
- Would you ask this game as a present for your birthday?
- If you could choose one item in a store, would you choose this game?

Previous experience with the product

- Did you know the product before you saw this ad?

Liking of the product category

- Do you like pencil cases in general?

Attractiveness of the model

- Do you think this child is attractive?

Model characteristics

"The child in the picture …"

- Is friendly
- Is kind
- Is good at sports
- Is happy
- Is cheerful
- Is smart
- Is helpful
- Pays Attention in class
- Has A lot of toys/stuff
- Is trustworthy
- Follows the rules
- Has a lot of friends
- Shares toys/stuff
- Is honest
- Doesn't leave the table without finishing meal
- Likes All kinds of food

Self-perception after seeing the ad - General Self-Worth

- Are you happy with who you are?
- Do you sometimes feel bad about yourself?
- Are you satisfied with yourself?
- Would you sometimes want to be someone else?
- Do you like yourself?

Self-perception after seeing the ad - Physical appearance

- Are you happy with the way you look?
- Are you satisfied with your body?

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CHAPTER V
THE INFLUENCE OF MODEL ATTRACTIVENESS ON SELF-PERCEPTION AND ADVERTISING EFFECTIVENESS FOR 6- TO 7-YEAR-OLD CHILDREN

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1. Introduction

Marketers have always been keen on targeting children as consumers. They are after all not only an interesting primary market, because they buy products for themselves, but children also request products to their parents, making them a secondary market and an important future market (McNeal, 1992; Preston, 2004; Valkenburg & Cantor, 2001). For that reason, children are targeted by a massive amount of media on a daily basis. Children's programs on commercial networks, for example, can contain 25 child-targeted commercials per hour (Valkenburg & Cantor, 2000). To stimulate the effectiveness of advertising to children, marketers use a wide range of advertising techniques in their campaigns (Nairn & Fine, 2008); one of which is the incorporation of attractive models. While attractive models are often used in advertising to children, there is little research on the effects of using them in advertising for 6- to 7-year-old children. Examination of the effects of this technique is important, however, because for adults, exposure to attractive models has been linked not only to advertising effectiveness, but also to detrimental effects on self-esteem and self-perception (Bessenoff, 2006; Hatoum & Belle, 2004; Thornton & Moore, 1993).

At the age of 6 to 7 years old, two important cognitive developments relevant for the effect of attractive advertising models in ads on children, are only developing. First, children have not yet developed the necessary skills to act as fully informed consumers (John, 1999; Rozendaal, Buijzen, & Valkenburg, 2009), possibly enhancing the effectiveness of the use of attractive models in ads. Second, children of that age are also not yet using social comparisons to re-evaluate their own attractiveness (Ruble, Boggiano, Feldman, & Loebl, 1980; Ruble, Feldman, & Boggiano, 1976). This makes attractive models in ads perhaps less harmful than

they are for adults and older children, because it might refrain young children from adjusting their self-view to the comparisons they made with models in ads.

More insights are therefore needed to establish whether attractive advertising models influence self-perception and advertising effectiveness of children as young as 6 years old, in order to help policy makers, parents and advertisers to understand these effects (Bijmolt, Claassen, & Brus, 1998; Martin & Gentry, 1997). By means of two experimental studies with 6- to 7-year-old children, we examine the effect of using attractive peer models in advertising on children's self-worth, perceived physical appearance and advertising effectiveness.

2. Literature overview

2.1. Attractive models in advertising

From a very early age on, children evaluate others on a number of factors, such as biological features (for example age and gender), social features (for example status and ethnicity), behavioral features (such as mood and traits), but also physical features (such as appearance and attractiveness) (Terry & Stockton, 1993). These features are then used to make inferences and evaluations about others (Terry & Stockton, 1993). Schema about people's physical features are for example present even in infants. One particular type of evaluation people make from others is inferences they draw from people's attractiveness. This has led to the perceived attractiveness stereotype, or the "What is beautiful is good" stereotype that argues that people experience an inclination to evaluate attractive people more positively (Dion, Berscheid, & Walster, 1972; Eagly, Ashmore, Makhijani, & Longo, 1991). Adherence to the stereotype makes people assume that attractive people are for example also more popular, less aggressive, happier (Dion et al., 1972; Smith, McIntosh, & Bazzini, 1999) etc. Even this tendency is found early on in our lives. New-born children look longer at attractive faces (Dion et al., 1972) and 6-month-old infants have visual (e.g., longer looking time) and behavioral (e.g., more play involvement, less withdrawal) preferences for attractive compared to unattractive faces (Langlois, Roggman, & Rieser-Danner, 1990).

The preference for physical attractiveness has also been used in advertising. In nearly 25% of commercials, some form of attractiveness is present (Downs & Harrison, 1985), for example by using attractive models to appraise the product. Attractive models generate positive product associations (Joseph, 1982), due to this common stereotype that causes us to

believe that attractive people also possess other positive characteristics (Baker & Churchill, 1977; Dion et al., 1972; Parekh & Kanekar, 1994). Since people also agree more often with the opinions of attractive people and attractive people generate more compliance (Debevec, Madden, & Kernan, 1986), advertisers use the technique to also generate goodwill for their products. This technique seems to be successful, resulting in higher advertising effectiveness (Baker & Churchill, 1977; Kozar, 2010).

While attractive models are often used in advertising to children, there is little research on the effects of using them in advertising on 6 to 7 year olds. These effects can be intended by advertisers, such as an increased ad liking or purchase intention of the child, but can also come in unintended forms, such as effects on children's self-perception. How these effects work out depends on a number of factors, such as the cognitive development of a child.

2.2. The influence of children's cognitive development on processing advertising

The ability to create knowledge about brands, become ad literate, understand the selling intention of advertising etc. increases with age (John, 1999; Rozendaal et al., 2009; Rozendaal, Opree, & Buijzen, 2014). Children go through a series of developmental stages and by doing so, they learn how to react to advertising and learn skills that allow them to be able to grasp the selling and persuasive intent of commercials (John, 1999; Moschis & Churchill, 1978; Rozendaal et al., 2009; Rozendaal et al., 2014; Ward, 1974). Although young children are frequently targeted by advertisers, children's knowledge about advertising and their capability of critically evaluating advertising content is not yet completely developed (Rozendaal et al., 2009). Generally, there are two aspects that must be met before someone can develop a mature view on advertising. First, children need to be able to distinguish between advertising and program content. Second, they need to be able to understand that advertising has a persuasive goal (John, 1999; Livingstone & Helsper, 2006; Wilcox et al., 2004). These two factors (viz., discern between advertising and media content and understand the persuasive intent of advertising) generally develop alongside with these cognitive development stages.

Below the age of 5, children are usually unable to correctly differentiate between media content and advertising (Valkenburg & Cantor, 2001; Wilcox et al., 2004). This comprehension generally is present ***at the age of 6 to 7 years old***, but at this age children are still mainly seen as limited processors and generally unable to understand the persuasive

intent of advertising (Valkenburg & Cantor, 2001; Wilcox et al., 2004). Decision making is done by using narrow ranges of information, for example by making evaluations based on single dimensions, by using irrelevant instead or more relevant information (Davidson, 1991; John, 1999; Wilcox et al., 2004). The children in this phase are called "perceptually dependent", making them focused on the perceptual elements of stimuli and on how something looks, independent of whether the visual information is relevant or not. This also has consequences for advertising, since children specifically focus on the perceptual stimuli, such as the use of endorsers, appealing colors, catchy music etc. (Hoffner & Cantor, 1985; John, 1999; Livingstone & Helsper, 2006; Moore & Lutz, 2000; Ross et al., 1984; Wilcox et al., 2004).

By the time children reach the age of ***7 to 8 years***, they have also reached a critical point in their development as a consumer. Several studies also see this age as a tipping point for children's cognitive development. Children generally will start to exhibit more and more cognitive instead of perceptual preferences. This is closely related to their defenses to advertising (D'Alessio, Laghi, & Baiocco, 2009; John, 1999; Pecheux & Derbaix, 2002; Preston, 2004). From this age on, children are generally beginning to have knowledge about the persuasive and selling intent of advertising (John, 1999; Wilcox et al., 2004). According to John (1999), 7- to 8-year-old children are in an analytical stage of cognitive development, providing them with the possibility to recognize that advertising's primary goal is to sell people certain goods. However, 7- to 8-year-olds are still only in a beginning phase of becoming skeptical towards ads and in understanding that advertising is sometimes biased and not telling the whole truth. At this age, children still cannot always make use of these emerging skills. They are often said to need "cues" that alert them to use the information and defenses they have.

Children ***above 11 years old*** have generally adopted the cognitive capacities that enable them to process advertising as adults would (John, 1999). They can usually think about advertising in a reflective way, they can relate to social aspects about consuming, such as seeing the need to develop a consumer identity and can also make decisions based on multiple dimensions.

2.3. Effect of using attractive models in advertising to children on advertising effectiveness

As mentioned before, attractive models are often used in advertising (Parekh & Kanekar, 1994). Since people agree more often with the opinions of attractive people and attribute other positive characteristics to beautiful people, attractive people generate more compliance (Debevec et al., 1986), so advertisers use the technique to also generate goodwill for their products. Studies have shown that advertisements that target adults are more effective when they use attractive (vs. less attractive) models in terms of product evaluations, mostly because these advertising models are also liked more (Joseph, 1982). This technique seems to be successful for adult targets, resulting in higher advertising effectiveness (Baker & Churchill, 1977; Kozar, 2010), such as for example higher purchase intentions (DeShields, Kara, & Kaynak, 1996; Petroshius & Crocker, 1989), attitudes towards the ad (Petroshius & Crocker, 1989) and affective ad reactions (Baker & Churchill, 1977).

The technique is also used in advertisements to children (Pringle, 2004), but the effects are less often examined. The literature overview suggests that children of 6 to 7 years old are probably still in the stage described as "perceptually dependent". They cannot yet discern between relevant and irrelevant advertising cues and are naturally biased towards perceptual cues (Ruggeri & Katsikopoulos, 2013). They most likely focus on perceptual information to evaluate advertisements. Perceptions about the model's attractiveness can then be used to make inferences about the advertised product, since attractive models in advertising can be seen as perceptual information included in the ad (Moore & Lutz, 2000; Wilcox et al., 2004). Since children below 7 years old are not yet capable of discriminating relevant from irrelevant information, they will probably see model attractiveness as a relevant cue to form attitudes towards the ad, affective reactions towards the ad and purchase intentions for the product even for non-beauty products.

One way in which results might be different for children is the relevancy of the match-up between the model and the product. We assume that children of 6 to 7 years old will also be less skeptical towards other information that might be relevant for an assessment of the ad, since they are less focused on relevant arguments. For example, for adults, when attractive models are used as a marketing argument, the advertised product must have some relation to beauty to be able to generate advertising effectiveness (Parekh & Kanekar, 1994). In the study of Parekh and Kanekar (1994), for example, attractive models worked best for soap or

shampoo (which they named "beauty-related products"), while they worked less for a ballpoint pen or stationary (which they saw as products unrelated to beauty). Because the development of a skeptical attitude towards advertising develops with age, and since limited knowledge about the persuasive intent of advertising leads to cognitive and affective responses towards the ad (Livingstone & Helsper, 2006; Wilcox et al., 2004), we expect that model attractiveness will also have strong advertising effects in non-beauty product advertisements for young children (Martin & Gentry, 1997; Roedder, Sternthal, & Calder, 1983):

> Hypothesis 1: Children of 6 to 7 years old have higher attitudes towards the ad, more positive affective reactions towards the ad and purchase intentions for an advertised non-beauty product, when an attractive vs. less attractive same-sex peer advertising model is included in the ad.

2.4. Effect of using attractive models in advertising on children's self-perception

The use of attractive models in advertising might also have consequences for children's self-evaluations. A lot of research shows the detrimental effect of exposure to idealized advertising models on adult's (and especially women's) self-ratings of attractiveness, self-esteem, body satisfaction and mood (Bessenoff, 2006; Hatoum & Belle, 2004; Little & Mannion, 2006; Thornton & Moore, 1993; Tiggemann, Polivy, & Hargreaves, 2009). People compare themselves with models in advertisements and often reconsider evaluations of themselves and others after being exposed to idealized models (Irving, 1990; Thornton & Moore, 1993). As a result, for adults, exposure to attractive models is often related to reduced self-worth, feelings of inadequacy, jealousy, frustration and anxiety because it generates social comparison (Bower & Landreth, 2001; Tiggemann et al., 2009).

For children, research shows inconsistent results. The detrimental effect of attractive models on self-perceptions and self-esteem of females has been found in some samples researching children of 9 years and older (Martin & Gentry, 1997). Additionally, some negative effects of looking at attractive models are found for children, but only when they are asked to evaluate themselves by comparison with the model in the ad but not when they are asked to engage in self-improvement by comparing themselves with the person in the ad (Martin & Gentry, 1997; Martin & Kennedy, 1993). The motive of the child is therefore an important factor.

According to the social comparison theory of Festinger (1954), people have a drive to engage in self-evaluation by for example, comparisons with others. As people grow older, they start to integrate comparisons with others and feedback from others to form their own self-perception (Robins & Trzesniewski, 2005). Comparisons with others can serve as a means to form evaluations of the self. Research suggests that children also compare themselves with others from an early age on, but do not use this information for self-evaluation purposes until they reach the age of about 7 to 8 years old (Ruble et al., 1980; Ruble et al., 1976). When children reach that age, they start to integrate comparisons with others and feedback from others to form their own self-perception (Robins & Trzesniewski, 2005). This is also the time at which children go from preschool to elementary school, and is therefore also typically the moment where they begin to be exposed to more negative feedback of peers (Robins & Trzesniewski, 2005) and where social comparison starts to be of importance to the evaluation of the self.

In sum, adults' and adolescents' self-worth is often affected after being exposed to attractive models in advertising, but there is insufficient research examining the effects on younger children. Since children of 6 to 7 years old have been a largely neglected age group in attractiveness research and results of previous studies on the effect of attractive models on children's self-perception is ambiguous, this paper will explore this further. Because children of 6 to 7 years old do compare themselves with others, but do not use this information to form self-evaluations, we propose following hypothesis:

> Hypothesis 2: For children of 6 to 7 years old, self-worth and perceived physical attractiveness does not differ when being exposed to an attractive vs. less attractive same-sex peer advertising model in an advertisement for a non-beauty product.

3. Methodology

Two experimental studies were conducted to test the effect of exposure to attractive versus less attractive models in advertising on self-perception and advertising effectiveness. For both studies, schools were contacted and all children within the selected age range were invited to participate. Teacher, school and parental written consent were obtained before starting each study. Parents also got a brief description of the study about what their children would have to do in the questionnaire, without specifying the true hypotheses (to not compromise the results).

Children were asked if they wanted to participate in the study. Children who did not want to voluntary engage in the experiment were also not prompted to do so. Participants were instructed that they could opt out of the study at any time they wanted. Children were briefed about the purpose of the questionnaire and were asked to be honest in their answers. They were told that there were no "right" or "wrong" answers (an exemplar question was each time given, referring to a socially desirable answer pattern, such as "Do you like the sweater of the interviewer?" – for which children were told that if this were a question in the study, and they in fact disliked the sweater, they were encouraged to honestly indicate this answer).

The children completed a self-administered survey and were interviewed in the classroom, out of sight of each other. The children that were interviewed were in their first year of elementary school and were only starting to learn how to read and write. Children were therefore first given an introduction about the scale format that was used in the interviews. The interviewer read all questions aloud and assisted the children in registering their responses, which consisted of marking crosses on a 5-point scale. To reduce cognitive load and avoid fatigue, shortened versions of scales were used where possible, for example by employing one-item measures.

4. Study 1

4.1. Participants

Sixty first grade children participated in the study (50% girls, M_{age} = 6.74, SD_{age} = 0.44). All children were recruited in schools located in the Dutch speaking part of Belgium.

4.2. Design and stimuli

Respondents saw an advertisement for a new movie DVD. The movie used in the advertisement was an animated children movie, named "Wreck It Ralph". It was a Disney production that was to be released in Belgium two months later. The movie was not yet advertised for, so it was unknown for the respondents. We selected a new movie, not aired in Belgium, to eliminate experience with the product - which could affect children's attitudes. The advertisement is a picture of the DVD and the model appraising the movie by giving it a

thumbs up. The picture also incorporated a text balloon in which the model said "great" and the text "in theatres now".

Respondents were randomly assigned to seeing either an advertisement using an attractive or less attractive same-sex child model. As this makes results more concise, we only exposed children to models that matched their own gender (which is also in accordance to previous studies of for example Tsai and Chang (2007)). We did so because previous research indicates that children prefer peers of their own sex (Terry & Stockton, 1993), prefer to play with same-gender peers over other-gender peers (Shutts, Banaji, & Spelke, 2010). Four models were therefore selected, one girl and one boy for study 1 and one girl and one boy for study 2.

We used models that were also approximately the same age as the respondents, because previous research argues that people prefer advertising models of similar age (Kozar, 2010). The same boy and girl were used in both the attractive and less attractive advertisement. Facial characteristics of the models were altered, since previous research shows that the assessment of overall attractiveness strongly correlates to the assessment of facial attractiveness (Mueser, Grau, Sussman, & Rosen, 1984). To manipulate the attractiveness of the model, we changed the hairstyle and added glasses to make the children less attractive. This latter adjustment was based on the "glasses stereotype", that states that people who wear glasses are evaluated as less attractive. Evidence for this stereotype is also found in children samples (Terry & Stockton, 1993)[8].

4.3. Pretest

A pre-test, using a within-subjects design with repeated measures ANOVA (N = 18, 44% girls, M_{age} = 6.61, SD_{age} = 0.98), showed that the "attractive" and "less attractive" models were identified as such ($F(1,17) = 9.48$, $SE = .23$, $p < .01$). The female attractive model ($M = 3.44$; $SD = 1.29$) was more attractive ($F(1,17) = 8.50$, $SE = .23$, $p < .05$) than the female less attractive model ($M = 2.78$; $SD = 1.35$). The male attractive model ($M = 2.83$; SD

[8] All advertisements and manipulations are available upon request, but cannot be added to the published version of this chapter due to confidentiality concerns of the children who were willing to model for the ads.

= 1.43) was more attractive ($F(1,17) = 5.05$, $SE = .32$, $p < .05$) than the male less attractive model ($M = 2.11$; $SD = 1.23$).

However, we also saw that the female attractive model was more attractive than the male attractive model ($F(1,17) = 4.35$, $SE = .29$, $p = .05$). The female less attractive model was also more attractive ($F(1,17) = 4.86$, $SE = .30$, $p < .05$) than the male less attractive model. We even saw no perceived difference between the attractiveness of the less attractive female model and the attractive male model ($F(1,17) = .03$, $SE = .32$, $p = .86$). In line with expectations, we did show that the female attractive model was more attractive than the less attractive male model ($F(1,17) = 14.32$, $SE = .35$, $p < .01$).

The advertised product in this study was a movie, "Wreck-it Ralph". Children saw this movie as being gender-neutral when they were asked to evaluate it on a five-point scale, ranging from "(1) only for boys" to "(5) only for girls". The mean ($M = 2.78$, $SD = 0.55$) did not differ from the midpoint of the scale, signifying "(3) for both boys and girls" ($t(17) = -1.72$, $p = .10$).

We additionally compared evaluations of boys and girls for the movie by asking children if they believed Wreck-it Ralph would be a nice movie, which they evaluated on a five-point scales ranging from "NO!!!" to "YES!!!". There were no gender differences found ($t(16) = -.04$, $p = .97$; Boys: $M = 4.10$, $SD = 1.20$, Girls: $M = 4.13$, $SD = 1.36$).

4.4. Measures

Self-perception before seeing the ad. Children reported their age and gender before completing one item from the "general self-worth" subscale, namely "Are you happy with who you are? ($M = 4.65$, $SD = 0.86$)" and one item from the "physical appearance" subscale, namely "Are you happy with the way you look? ($M = 4.34$, $SD = 1.21$)" of the Dutch version (Treffers et al., 2002) of Harter's Self-Perception Profile for Adolescents (Harter, 1988) and Self-Perception Profile for Children (Harter, 1985). These items were selected because they were both best adapted to children's language (after translation into children's mother tongue). Additionally, the physical attractiveness item also had a high factor loading in the study of Muris, Meesters, and Fijen (2003), while the first item had a high factor loading in both of the studies in chapter IV. Single item measures have additionally been used in previous studies to examine self-worth and proved to be reliable (Robins, Hendin, & Trzesniewski, 2001). In the original scale, children had to make a choice between items on a

bipolar scale. As suggested by (Wichstraum, 1995) we disentangled these two statements and used one-statement questions. The statements were transformed into questions, because children can respond to questions more easily (Buijzen & Valkenburg, 2003). Items were completed on a five-point-scale and had verbal and non-verbal anchor points. Emoticons (non-verbal) indicated respectively (1) a very sad face, (2) a sad face, (3) a neutral face, (4) a happy face and (5) a very happy face. Verbal anchor points corresponded with the emoticons and indicated respectively (1) "NO!!!", (2) "no", (3) "In between", (4) "yes" and (5) "YES!!!".

Advertising effectiveness. After seeing the ad, children filled out an *attitude towards the ad* scale containing three items, viz. "Do you like this ad?", "Do you think this ad is stupid" (reverse coded) and "Do you want to see this ad again?" ($\alpha = .69$, $M = 3.46$, $SD = 1.21$), based on previous research (Derbaix, Blondeau, & Pecheux, 1999; Derbaix & Bree, 1997; Derbaix & Pecheux, 2003; Pecheux & Derbaix, 1999, 2002). Next, children completed a two item scale regarding their positive *affective reaction towards the ad*, adapted from Derbaix and Bree (1997), viz. "Did you feel joyful while looking at the advertisement?" and "Did you feel happy while looking at the advertisement?" ($\alpha = .80$, $M = 3.75$, $SD = 1.35$).
Children also completed a scale with items measuring *purchase and request intention.* We used a composite of items, because previous studies have often used one-item measures that only focus either on the "buying" part or either on the "request" part of purchase and request intentions. We used the item employed in Derbaix and Bree (1997), namely "Would you buy this DVD at the store if you had enough pocket money for it?" and the one used by Mallinckrodt and Mizerski (2007), "Would you ask this DVD as a present for your birthday?". Additionally, two items were included that have often been used as single-item measures of purchase intentions in studies with adults (Bennett & Harrell, 1975; Kamins & Marks, 1987), namely "Would you want to buy this?", and "If you could choose one item in a store, would you choose this DVD?" The item "If you could choose one item in a store, would you choose this DVD?" was removed from the scale to improve reliability ($\alpha = .88$, $M = 3.46$, $SD = 1.46$).

Children also completed a one item measure on ***general liking of the product category*** ("Do you like DVD's?"; $M = 4.53$, $SD = 0.95$) and ***previous experience*** with the product ("Did you know the DVD "Wreck-it Ralph" before you saw this ad?"; $M = 1.67$; $SD = 1.20$). No gender differences were found for general liking of watching DVD's ($t(58) = 1.37$, $p = .18$) or previous product knowledge ($t(58) = .64$, $p = .52$).

Model attractiveness. Children evaluated the attractiveness of the model on a five-point scale ("Do you think the child in the ad is attractive?"; M = 3.09, SD = 1.53).

Self-perception after seeing the ad. Finally, children again completed the item about their own perceived self-worth (M = 4.50; SD = 0.98) and the item measuring their perceived physical appearance (M = 4.48; SD = 0.89).

4.5. Results

4.5.1. Control measures

A manipulation check to evaluate if the attractive and less attractive models were also perceived as such showed mixed results. ANOVA analysis examined the effect of gender and model attractiveness (attractive vs. less attractive) on attractiveness ratings of the model and showed a marginally significant main effect of gender (F(1,54) = 3.26, SE = .35, p = .08), indicating that girls overall evaluated the female model as more attractive (M = 3.38, SD = 1.45) than boys evaluated the male model (M = 2.79, SD = 1.57). There was a significant effect of the attractiveness condition on the attractiveness ratings (F(1,54) = 13.80, SE = .35, p < .01), so the attractive models were –despite gender differences- evaluated as more attractive (M = 3.72, SD = 1.41) than the less attractive models (M = 2.45, SD = 1.38).

There was also a significant interaction effect (F(1,54) = 4.38, p < .05). Planned comparisons indicate that the female attractive model was more attractive (M = 4.43, SD = 0.94) than the less attractive model (M = 2.40, SD = 1.21; F(1,54) = 16.86, SE = .49, p < .01). For the male model, no attractiveness differences were found between the attractive (M = 3.07, SD = 1.49) and less attractive model (M = 2.50, SD = 1.65; F(1,54) = 1.32, SE = .49, p = .26). This finding is consistent with the results of the first study of chapter IV, where we did find attractiveness differences in within-subjects designs (such as our pre-test) for boys, but where boys also failed to differentiate between them in between-subjects designs.

Girls also believed the female attractive model was more attractive than boys believed the male attractive model was (F(1,54) = 7.60, SE = .49, p < .01) and the male less attractive model (F(1,53) = 67.53, SE = .28, p < .01) was. The less attractive models were both perceived as equally unattractive (F(1,54) = .04, SE = .49, p = .84), and as to be expected, the male attractive model was more attractive than the female unattractive model (F(1,53) = 6.51, SE = .29, p < .05).

Consequently, the attractiveness rating ("Do you think the child in the ad is attractive?") was used in further analyses. In this way, we account for possible differences in perceived attractiveness of the models within manipulation conditions and address perceived differences in attractiveness, regardless of what is perceived as attractive by the manipulated condition. An overview of all results are reported in table 1.

4.5.2. Effect of model attractiveness on perceived self-worth and physical appearance

Linear regression was performed to examine the effect of perceived model attractiveness (centered) on children's self-evaluations of self-worth and physical appearance. Linear regression shows no significant main effect of gender (b = -.36, β = -.18, SE = .26, t(54) = -1.35, p = .18) and the attractiveness rating of the model (b = .10, β = .15, SE = .09, t(54) = 1.17, p = .25) on self-worth after seeing the ad, while controlling for general self-worth before seeing the ad. There was no interaction effect found (b = .19, β = .21, SE = .18, t(53) = 1.08, p = .29) when adding the interaction term gender x model attractiveness as second step to the regression model.

Consistent with these results, there were also no main effects of gender (b = -.38, β = -.21, SE = .25, t(53) = -1.54, p = .13) and the model attractiveness rating (b = -.05, β = -.08, SE = .08, t(53) = -.57, p = .57) on perceived physical appearance after seeing the ad, while controlling for perceived physical appearance before seeing the ad. There was also no interaction effect found (b = .18, β = 22, SE = .17, t(52) = 1.10, p = .28).

4.5.3. Effect of model attractiveness on advertising effectiveness

Linear regression with previous experience with the product and liking of the product category as covariates shows that attitudes towards the ad (b = .27, β = .34, SE = .11, t(47) = 2.58, p < .05) and purchase intentions (b = .23, β = .24, SE = .11, t(50) = 2.00, p = .05) are higher when advertising models are perceived as more attractive.

There was also a marginally significant main effect of gender on attitude towards the ad (b = .55, β = .23, SE = .32, t(47) = 1.73, p = .09) and a significant gender effect on purchase intentions (b = .84, β = .29, SE = .35, t(50) = 2.40, p < .05), which showed that boys had higher purchase intentions and attitude towards the ad than girls did.

A marginally significant main effect of model attractiveness on affective ad reactions (b = .19, β = .21, SE = .11, t(50) = 1.71, p = .09) was found, but here, there was no main effect of gender (b = .45, β = .17, SE = .33, t(50) = 1.35, p = .18).

No interaction effects between gender and perceived model attractiveness were found for the advertising effectiveness measures (attitude toward the ad: b = .08, β = .07, SE = .23, t(46) = .34, p = .74; affective ad reactions (b = .05, β = .04, SE = .24, t(49) = .19, p = .85) and purchase intentions (b = -.15, β = -.12, SE = .25, t(49) = -.62, p = .54)).

Linear regression without covariates yield similar main effects for model attractiveness, although all main effects of gender disappeared.

Since the purchase and request intention scale contained items that comprised not only purchase intention, but also for example request intentions, the separate items of the scale were also looked at into more detail. First, factor analysis showed that the four items of the scale could be attributed to one factor, but that the item we removed from the scale to improve reliability ("If you could choose one item in a store, would you choose this DVD") had a poor factor loading (.34), which makes the scale used in the experiment valid. The effect of perceived model attractiveness on each of the individual items was examined. As can be seen in table 1, the item "Do you want to buy this DVD" is also positively related to purchase intentions. The attractiveness of an advertising model therefore relates to children's increased interest in buying the product. Boys also have higher interest to buy the DVD than girls do. There is no relation between perceived model attractiveness and children's interest in buying the DVD at a store if children have enough pocket money or choosing it in a store if they were allowed to select one item in that store. Children who perceived the model as being more attractive did want to ask the DVD more as a birthday present and boys also wanted to ask the DVD more as a birthday present than girls did.

Linear regression on the separate purchase intention items without covariates yielded similar results, except that the main effects of gender and perceived model attractiveness on "ask the DVD more as a birthday present" disappeared (gender: b = .62, β = .20, SE = .42, t(55) = 1.48, p = .15; perceived model attractiveness: b = .23, β = .22, SE = .14, t(55) = 1.66, p = .10).

4.6. Discussion

Study 1 shows that model attractiveness has no influence on general self-worth and perceived physical appearance of boys and girls of 6 to 7 years old. Children did display higher attitudes, higher purchase intentions and higher affective reactions toward the ad when they perceived the model as being more attractive.

Boys also had higher purchase intentions and ad attitudes than girls did when controlling for previous experience with the product and liking of the product category. Although there were no significant gender differences for these covariates, means for girls were non-significantly higher than for boys for both variables. So when these slight differences are levelled out, the analysis show that boys' purchase intention and ad attitudes for the movie are higher than for girls.

5. Study 2

The second study was set up to be able to replicate the results of study 1 while altering four elements of the first study to improve insights in our results. (1) First and foremost, we wanted to improve the attractiveness manipulation, which failed in the first study. Since the model attractiveness manipulation failed for boys, and pretesting indicated that the male models were rated slightly lower in attractiveness than the female models, two other models are selected and another technique is used to manipulate attractiveness in the second study, namely facial symmetry and balance. (2) Second, we wanted to rule out possible gender differences in product liking. We therefore used a different product than in the first study, namely a Wii game, since previous research indicated that videogames are rather gender neutral (Van de Sompel, Vermeir, & Pandelaere, 2012). (3) Finally, since young children of 6 to 7 years are in a crucial phase of gathering advertising knowledge, a measurement of advertising literacy and media influence on self-image is included because these constructs relate to the extent to which children are susceptible to advertising. We want to examine if our results still hold if advertising literacy and media influence on self-image are taken into account as covariates, because this might differ across respondents.

5.1. Participants

Eighty-seven first grade children participated in the second study (44% girls, M_{age} = 7, SD_{age} = 0.68). All children were recruited in schools in the Dutch speaking part of Belgium.

5.2. Design and stimuli

Consistent with study 1, children were randomly confronted with an ad using a same-sex attractive or less attractive model of their own age. To manipulate model attractiveness, we used an original picture of a model (either a boy or a girl) to obtain the attractive condition. We adapted a picture of this model and manipulated the picture with Photoshop to obtain the less attractive condition, by changing two facial characteristics, namely symmetry and averageness. A symmetric face is associated with attractiveness (Kowner, 1996) and an average face is also seen as more attractive because it is more balanced (Langlois & Roggman, 1990)[9].

5.3. Pretest

A first pre-test was set up to select appropriate models for the ad. Four children, two boys and two girls, were photographed. This first pretest allowed us to withhold one male and one female model. We decided to use the remarks given on the pictures to optimize the pictures even further and conducted a second pre-test.

The second pre-test made use of a within-subjects design with repeated measures ANOVA (N = 31, 48% girls, M_{age} = 7, SD_{age} = 0.86). Results of this pretest showed that the "attractive" and "less attractive" models were identified as such (F(1,28) = 10.91, SE = .20, p < .01). The female attractive model (M = 4.34; SD = 1.01) was more attractive (F(1,28) = 13.41, SE = .25, p < .01) than the female less attractive model (M = 3.45; SD = 1.35). The male attractive model (M = 2.86; SD = 1.38) was more attractive (F(1,28) = 4.17, SE = .22, p < .01) than the male less attractive model (M = 2.41; SD = 1.32). However, we also saw that the female models were again found to be more attractive than the male models. The female attractive model was more attractive than the male attractive model (F(1,28) = 28.23, SE = .28, p < .01) and was also more attractive than the male less attractive model (F(1,28) = 38.89, SE = .31, p < .01). The female less attractive model was also more attractive than the male less attractive model (F(1,28) = 17.75, SE = .25, p < .01), and surprisingly also marginally significantly more attractive than the attractive male model (F(1,28) = 3.44, SE = .32, p = .07).

[9] All advertisements and manipulations are available upon request, but cannot be added to the published version of this chapter due to confidentiality concerns of the children who were willing to model for the ads.

The advertised product in this study was a Wii game, "Wii around the world". Children saw this game as being slightly more suitable for boys when they were asked to rate it on a five-point scale, ranging from "(1) only for boys" to "(5) only for girls". The mean (M = 2.50, SD = *0.*71) did differ from the value "3" - which signified "for both boys and girls" ($t(18) = -3.00$, $p < .01$). We additionally compared evaluations of boys and girls for the game by asking children if they like the Wii game, which they evaluated on a five-point scales ranging from "(1) NO!!!" to "(5) YES!!!". There were no gender differences found ($t(16) = .65$, $p = .54$; Boys: M = 4.30, SD = *0.*48, Girls: M = 3.88, SD = 1.81). Since product liking was not different across genders, we decided to use this product for the study.

5.4. Measures and Procedure

The same measures and procedure were used as in study 1, but some measures were added to the study. All items were measured on five-point scales using verbal as well as non-verbal anchors, as in study 1. First, gender and age were recorded.

Self-perception before seeing the ad. Perceived self-worth before being exposed to the ad (M = 4.75; SD = 0.58) and perceived physical appearance before being exposed to the ad (M = 4.48; SD = 0.89) were measured.

Advertising literacy. Next, advertising literacy was measured by means of the advertising literacy measure used by Tutaj and van Reijmersdal (2012) and Rozendaal et al. (2014). Tutaj and van Reijmersdal (2012) measured two important aspects of advertising literacy, namely the persuasive intent and the selling intent and added a control measure to gauge for the informative intent of a specific ad. One item was selected for each factor to be used in our study and was adapted to the language capabilities of our respondents. These items were respectively, (1) understanding the selling intent: "Does advertising make you want to buy stuff?" (M = 3.86, SD = 1.50) and (2) understanding the persuasive intent: "Does advertising want to draw your attention, so you say 'hmmm… this is new, can I have it?'" (M = 3.69, SD = 1.41). The third factor Tutaj and van Reijmersdal (2012) used as a control, was also added: (3) understanding the informative intent: "Does advertising want to show what has been invented, what is new?" (M = 4.13, SD = 1.10). Because these items had low internal reliability ($\alpha < .30$), they were used as separate items in the analysis.

Advertising effectiveness. Next, children saw the ad and filled out the same measures as the ones used in study 1 for attitude towards the ad ($\alpha = .65$; M = 3.89; SD = 1.11), positive

affective reaction towards the ad (α = .73, *M* = 3.68, *SD* = 1.23) and purchase intention (α = .81; *M* = 3.99; *SD* = 1.15).

Media influence on self-image. Thompson, van den Berg, Roehrig, Guarda, and Heinberg (2004)'s Sociocultural Attitudes Towards Appearance Scale-3 was used to measure media influence on self-image. Four items were included, one for each of the four subscales: (1) for the "information" subscale: "do advertising pictures tell you who is attractive and what is in fashion? (*M* = 3.22, *SD* = 1.55)", (2) for the "pressure" subscale: "do television and advertising want you to be thin and beautiful? (*M* = 2.44, *SD* = 1.49)", (3) for the "internalization-general" subscale: "do you compare yourself with movie starts and television stars?" (*M* = 2.66, *SD* = 1.55) and (4) for the "internalization-athlete" subscale: "do you compare yourself with athletes?" (*M* = 3.20, *SD* = 1.62). Because these items had low internal reliability (α < .50), they were used as separate items in the analysis.

Children again completed measures on ***model attractiveness*** (*M* = 3.32; *SD* = 1.45), ***previous product knowledge*** (*M* = 2.15; *SD* = 1.60) and general ***liking of the product category*** (*M* = 4.59; *SD* = 0.72). No gender differences were found for general liking of Wii games (*t*(85)= -.68, *p* = .50) or previous product knowledge (*t*(85) = .45, *p* = .66).

Self-perception after seeing the ad. Finally, self-worth (*M* = 4.69; *SD* = 0.69) and perceived physical appearance after being exposed to the ad (*M* = 4.55; *SD* = 0.85) were recorded.

5.5. Results

5.5.1. Control measures

Manipulation checks with ANOVA analysis showed a significant main effect of gender (*F*(1,83) = 5.82, *SE* = .31, *p* < .05) on the attractiveness ratings, indicating that girls overall evaluated the female model as more attractive (*M* = 3.74, *SD* = 1.35) than boys evaluated the male model (*M* = 3.00, *SD* = 1.46). There was, however no main effect of the attractiveness condition (*F*(1,83) = .54, *SE* = .31, *p* = .47), which meant that the attractive models were – regardless of gender differences- not evaluated as significantly more attractive (*M* = 3.43, *SD* = 1.52) than the less attractive models (*M* = 3.22, *SD* = 1.40). There was no interaction effect between gender and model attractiveness (*F*(1,83) = 0.04, *p* = .84). Consistent with study 1, we therefore used the attractiveness measure in further analyses.

5.5.2. Effect of model attractiveness on self-worth and physical appearance

No significant main effect was found of gender (b = -.11, β = -.08, SE = .16, t(83) = -.68, p = .50) and the model attractiveness rating (b = -.01, β = -.03, SE = .05, t(83) = -.24, p = .81), nor was there an interaction effect between gender and the attractiveness rating (b = .08, β = .13, SE = .11, t(82) = .76, p = .45) on self-worth after seeing the ad, while controlling for general self-worth before seeing the ad.

Gender (b = -.07, β = -.04, SE = .17, t(83) = -.39, p = .70) and the model attractiveness rating (b = .03, β = .06, SE = .06, t(83) = .54, p = .59) did not affect children's perceived physical appearance after seeing the ad, while controlling for satisfaction with physical appearance before seeing the ad. There was again no interaction effect found for this result (b = .12, β = .15, SE = .12, t(82) = .95, p = .35) when adding the interaction term gender x model attractiveness as second step to the model.

Controlling for the four items of the Sociocultural Attitudes Towards Appearance Scale (which all measure if children incorporate the influence of media in their self-image) did not change these results.

5.5.3. Effect of model attractiveness on advertising effectiveness

Linear regression with previous experience and product category liking as covariates shows that when an advertising model is perceived as more attractive, attitude towards the ad increases (b = .21, β = .27, SE = .08, t(81) = 2.47, p < .05). Gender had no main effect (b = .12, β = .05, SE = .25, t(81) = .49, p = .63), nor was there an interaction effect (b = -.03, β = -.03, SE = .18, t(80) = -.17, p = .87).

Regression analysis also reveals that perceived model attractiveness is positively related to children's positive affective reactions towards the ad (b = .33, β = .39, SE = .09, t(82) = 3.91, p < .01). Gender again had no effect on affective ad reactions (b = .02, β = .01, SE = .25, t(82) = .07, p = .95), nor was there an interaction effect (b = .26, β = .23, SE = .17, t(81) = 1.49, p = .14).

Perceived model attractiveness has no significant effect on 6- to 7-year-old children's purchase intention of the advertised game (b = .13, β = .16, SE = .09, t(82) = 1.53, p = .13). Gender again had no effect on purchase intentions (b = -.09, β = -.04, SE = .25, t(82) = -.37, p = .71), nor was there an interaction effect (b = .25, β = .24, SE = .17, t(81) = 1.46, p = .15).

Analyses without covariates show similar effects, except for purchase intention. There is still no main effect of gender (b = -.03, β = -.01, SE = .26, t(84) = -.12, p = .91), but results do show a marginally significant main effect of model attractiveness (b = .16, β = .20, SE = .09, t(84) = 1.85, p = .07) and a significant interaction effect of gender and perceived attractiveness of the model on purchase intention (b = .31, β = .30, SE = .18, t(83) = 1.77, p = .08), where for girls, there was no relation between model attractiveness and purchase intention of the game (b = -.03, β = -.03, SE = .14, t(83) = -.19, p = .85), while for boys, there was a positive relation (b = .29, β = .36, SE = .11, t(83) = 2.57, p < .05).

Controlling for advertising literacy did not significantly change the results. Additionally, the three advertising literacy items had no direct effect on any of the advertising effectiveness measures.

Since the purchase and request intention scale contained items that comprised not only purchase intention, but also for example request intention, the separate items of the scale were also inspected into more detail. First, factor analysis showed that the four items of the scale could be attributed to one factor, which makes the previously used scale valid. The effect of perceived model attractiveness on each of the individual items was examined. As can be seen in table 1, “Do you want to buy this game” and “Would you ask this game as a present for your birthday” are not related to perceived model attractiveness. There is also no direct positive relation between perceived model attractiveness and children’s interest in buying the game at a store if children have enough pocket money for it, but an interaction effect can be seen (b = .55, SE = .20, t(81) = -2.67, p < .01). The effect shows that only boys (b = .33, SE = .13, t(81) = 2.57, p < .05), and not girls (b = -.21, SE = .16, t(81) = .18, p = .18) would be more likely to buy the game with their pocket money if they perceived the model in the ad as more attractive. There is a direct positive relation between perceived model attractiveness and children’s interest in choosing the game at a store if they were able to choose select one product. Gender does not moderate this effect.

Although controlling for advertising literacy did not alter the results for most of the effects found, it did for the effect of perceived model attractiveness on children’s inclination to choose the game at a store if they were able to select one product. This main effect was no longer significant (b = .18, β = .16, SE = .12, t(77) = 1.50, p = .14). Since advertising literacy was negatively (but non-significantly) related to this purchase intention item, it can be a first

indication that advertising knowledge is able to reduce the intended effects of using attractive models in ads.

Linear regression on the separate purchase intention items without covariates yielded similar results, except that there was a marginally significant interaction effect of gender and perceived model attractiveness on the intention to buy the game (b = .35, β = .32, SE = .19, t(83) = 1.86, p = .07), yet post-hoc tests do not support these gender differences.

Main effects of gender and perceived model attractiveness on "ask the DVD more as a birthday present" disappeared (gender: b = .62, β = .20, SE = .42, t(55) = 1.48, p = .15; perceived model attractiveness: b = .23, β = .22, SE = .14, t(55) = 1.66, p = .10).

5.6. Discussion

Children's self-worth and physical appearance after exposure to the model was not affected by differences in perceived attractiveness of advertising models. Consistent with study 1, advertising effectiveness does improve when children perceive an advertising model as being attractive, since it positively impacts attitude towards the ad and positive affective reactions towards the ad. However, purchase intention was only affected when previous product experience and product category liking were not taken into account. Additionally, by inspecting the individual items of the purchase intention scale, we see that boys would buy the game more if they had enough pocket money if they believed the advertising model was more attractive. Children would prefer to choose the product more in a store if they believed the model was more attractive.

		Study 1					Study 2				
		B	*SE*	*β*	*t(df)*	*p*	*B*	*SE*	*β*	*t(df)*	*p*
Self-worth (POST)	Gender	-.36	.26	-.18	-1.35 (54)	.18	-.11	.16	-.08	-.68 (83)	.50
	Attractiveness	.10	.09	.15	1.17 (54)	.25	-.01	.05	-.03	-.24 (83)	.81
	Self-worth (PRE)	-.04	.15	-,04	-.30 (54)	.77	.19	.13	.16	1.46 (83)	.15
	Gender*Attractiveness	.19	.18	.21	1.08 (53)	.29	.08	.11	.13	.76 (82)	.45
Physical appearance (POST)	Gender	-.38	.25	-.21	-1.54 (53)	.13	-.07	.17	-.04	-.39 (83)	.70
	Attractiveness	-.05	.08	-.08	-.57 (53)	.57	.03	.06	.06	.54 (83)	.59
	Physical appearance (PRE)	-.08	.10	-.10	-.74 (53)	.46	**.40**	**.10**	**.42**	**4.21 (83)**	**.00**
	Gender*Attractiveness	.18	.17	.22	1.10 (52)	.28	.12	.12	.15	.95 (82)	.35
Attitudes toward the ad	Gender	**.55**	**.32**	**.23**	**1.73 (47)**	**.09**	.12	.25	.05	.49 (81)	.63
	Attractiveness	**.27**	**.11**	**.34**	**2.58 (47)**	**.01**	**.21**	**.08**	**.27**	**2.47 (81)**	**.02**
	Attitude product category	.29	.17	.22	1.71 (47)	.10	.19	.17	.12	1.11 (81)	.27
	Previous product experience	**.29**	**.14**	**.28**	**2.14 (47)**	**.04**	.02	.07	.02	.21 (81)	.83
	Gender*Attractiveness	.08	.23	.07	.34 (46)	.74	-.03	.18	-.03	-.17 (80)	.87
Affective attitudes toward the ad	Gender	.45	.33	.17	1.35 (50)	.18	.02	.25	.01	.07 (82)	.95
	Attractiveness	**.19**	**.11**	**.21**	**1.71 (50)**	**.09**	**.33**	**.09**	**.39**	**3.91 (82)**	**.00**
	Attitude product category	**.68**	**.17**	**.48**	**4.02 (50)**	**.00**	.16	.17	.09	.93 (82)	.36
	Previous product experience	.19	.14	.16	1.30 (50)	.20	**.21**	**.08**	**.27**	**2.77 (82)**	**.01**
	Gender*Attractiveness	.05	.24	.04	.19 (49)	.85	.26	.17	.23	1.49 (81)	.14
Purchase intention (scale)	Gender	**.84**	**.35**	**.29**	**2.40 (50)**	**.02**	-.09	.25	-.04	-.37 (82)	.71
	Attractiveness	**.23**	**.11**	**.24**	**2.00 (50)**	**.05**	.13	.09	.16	1.53 (82)	.13
	Attitude product category	**.57**	**.18**	**.38**	**3.20 (50)**	**.00**	**.45**	**.17**	**.28**	**2.68 (82)**	**.01**
	Previous product experience	**.38**	**.14**	**.32**	**2.71 (50)**	**.01**	.06	.08	.08	.75 (82)	.45
	Gender*Attractiveness	-.15	.25	-.12	-.62 (49)	.54	.25	.17	.24	1.46 (81)	.15
Purchase intention Do you want this DVD/game?	Gender	**1.31**	**.37**	**.40**	**3.59 (51)**	**.00**	-.07	.27	-.03	-.26 (82)	.79
	Attractiveness	**.26**	**.12**	**.24**	**2.20 (51)**	**.03**	.01	.09	.01	.09 (82)	.93
	Attitude product category	**.78**	**.19**	**.46**	**4.16 (51)**	**.00**	**.51**	**.18**	**.30**	**2.79 (82)**	**.01**
	Previous product experience	**.34**	**.15**	**.25**	**2.33 (51)**	**.02**	-.01	.08	-.01	-.07 (82)	.95
	Gender*Attractiveness	-.23	.25	-.16	-.91 (50)	.37	.28	.19	.25	1.48 (81)	.14
Purchase intention "Would you buy this at the store if you had enough pocket money for it?"	Gender	.64	.42	.19	1.55 (52)	.13	-.20	.30	-.07	-.68 (82)	.50
	Attractiveness	.22	.14	.20	1.62 (52)	.11	.11	.10	.12	1.07 (82)	.29
	Attitude product category	**.54**	**.21**	**.31**	**2.52 (52)**	**.01**	**.53**	**.20**	**.28**	**2.58 (82**	**.01**
	Previous product experience	**.44**	**.17**	**.32**	**2.66 (52)**	**.01**	.02	.09	.02	.23 (82)	.82
	Gender*Attractiveness	-.05	.30	-.03	-.16 (51)	.88	**.55**	**.20**	**.44**	**2.67 (81)**	**.01**

Purchase intention "Would you ask this as a present for your birthday?"	Gender	**.83**	**.40**	**.26**	**2.06 (53)**	**.04**	.03	.33	.01	.08 (82)	.94
	Attractiveness	**.25**	**.13**	**.24**	**1.90 (53)**	**.06**	.17	.11	.17	1.50 (82)	.14
	Attitude product category	.34	.21	.20	1.62 (53)	.11	.35	.23	.17	1.56 (82)	.12
	Previous product experience	**.40**	**.16**	**.30**	**2.43 (53)**	**.02**	.14	.10	.15	1.39 (82)	.17
	Gender*Attractiveness	-.26	.28	-.18	-.92 (52)	.36	.16	.24	.12	.68 (81)	.50
Purchase intention "If you could choose one item in a store, would you choose this?"	Gender	1.04	.91	.16	1.14 (51)	.26	-.12	.36	-.04	-.34 (82)	.73
	Attractiveness	.09	.30	.04	.31 (51)	.76	**.23**	**.12**	**.21**	**1.87 (82)**	**.06**
	Attitude product category	.58	.46	.17	1.24 (51)	.22	**.41**	**.24**	**.18**	**1.71 (82)**	**.09**
	Previous product experience	.35	.36	.13	.98 (51)	.33	.07	.11	.07	.65 (82)	.52
	Gender*Attractiveness	-.09	.64	-.03	-.13 (50)	.89	.03	.25	.02	.11 (82)	.91

Table 1. Relation between model attractiveness and advertising effectiveness and self-perception for 6- to 7-year-old children

6. General discussion

Children are targeted by advertisers on a frequent basis. One of the techniques advertisers often use is the incorporation of endorsers in ads, which can be celebrities, peer models, cartoon characters etc. These spokespeople are important for children, since children are often not solely interested in what advertisements have to say, but are rather drawn to their appeal and images (Acuff & Reiher, 1999). Few studies have looked at children below the age of seven, although there is some evidence that they also see endorsers as important informational sources. Atkin and Gibson (1978) for instance showed that 5- to 7-year-old children attributed knowledge about nutritional elements of food to the trade characters from food commercials. Hence, source characteristics play an important role in the effectiveness of advertising. Since advertising to children often includes attractive models and popular endorsers as a recognizable spokesperson for a product (Pringle, 2004), this paper examines to what extent the exposure to attractive models appraising a non-beauty product for children of 6 to 7 years old would affect children's self-perception and advertising effectiveness. Children under the age of 7 or 8 focus more on irrelevant vs. relevant and more on perceptual vs. verbal information (Ruggeri & Katsikopoulos, 2013), making the use of attractive models in advertising possibly very effective.

The current paper showed that higher evaluations of attractive advertising models do not affect 6- to 7-year-old children's self-evaluation, but are related to higher attitude towards the ad and affective reactions towards ads for non-beauty products. Both studies also show that

purchase intentions are dependent upon previous liking and knowledge of the product. Purchase and request intentions might therefore be difficult to achieve as an advertiser. This is not surprising, since purchase intention is after all a factor related to behavioral intentions, and although children might like a certain ad, intentions and purchase requests might be less easy to obtain. For adults, literature about the attitude-behavior gap argues that attitudes are also not always good predictors of behavioral intentions (Ajzen, 2001). Also for children, purchase intentions might need more time and more information to be formed. Purchase and request intentions might also be less relevant for children of this age. They probably have less touchpoints with actual transactional activities in the consumer process. Additionally, when we examine the individual items of the scale, we see that in study 2, although more attractive models would not make children buy the product more, it would stimulate them to choose it in a shop. Possibly, this can be due to the discrepancy between buying and receiving: buying a Wii game is perhaps too expensive for children of this age and this might not be the case for study 1, in which children did show higher purchase intentions for the DVD, possibly because this is a less expensive product and more within their purchase power.

This paper also showed that positive evaluations of attractiveness of a peer advertising model did not relate to negative effects on self-worth and perceived physical attractiveness. This result could be explained in several ways and future research is needed to examine it further. For example, our results are contradictory to findings of Dittmar, Halliwell, and Ive (2006), who saw that girls of 5 to 7 years old who were exposed to images of Barbie dolls (who have idealized characteristics), reported lower body esteem and greater desire for a thinner body shape. This would suggest that girls as young as 5 years old compare themselves with ideal representations. We did not find results that match these findings, but then again, we did not use idealized models. Our results can therefore not be extended to idealized and highly attractive models. Perhaps children of this age might be comparing themselves to models in ads, but only do so when comparison standards are set relatively high and idealization is also more pronounced. On the other hand, it has been shown that children are only starting to use comparisons with others as a means to self-evaluate when they are about 7 to 8 years old, so possibly, they do not use social comparisons with the models they saw to self-evaluate, which would make our results more aligned with general social comparison theory.

This finding provides important public policy implications, since it would mean that even though the use of attractive peers in ads to children is a commonly used technique, at the

age of 6 to 7 years, using attractive peer models in ads does not seem to be detrimental for children's self-perceptions. However, marketers and public policy makers should not interpret these results to suggest that this advertising technique cannot be harmful for children at all. They might have effects later on in a child's life, since media and advertising are strong socialization agents, also teaching children certain cultural norms, stereotypes etc. (John, 1999).

Our results also indicate that advertising literacy has little effect on the results found. Despite differences in knowledge about advertising, at the age of 6 to 7 years old, model attractiveness is still related to a more positive advertising attitude. This does relate to the stage of information processing skills that children of this age usually have. In fact, children below the age of seven are usually seen as limited processors of advertising. They see and receive information, perhaps even have knowledge about advertising's selling and persuasive intent, but are unable to actually retrieve and use this information to evaluate advertising (John, 1999). This capability is said to occur around the age of 8 to 12 and is labeled "cued processing" by John (1999). At that age however, children still need cues that help them retrieve the information and knowledge they have gathered before they are capable of using it. They start to gather advertising knowledge, might be aware of this knowledge, but don't always have the capabilities and skills yet to do something with it and put it into practice. Our results might indicate that even though children of 6 to 7 years old have some advertising knowledge (given the relatively high mean values of the ad literacy items), they might not be using this information to evaluate advertising. This also raises concerns, since children of this age are susceptible to advertising targeted towards them and have little or no weapons to guard themselves against their effects.

Based on our research, we therefore suggest that policy makers take more efforts to educate both children and parents in learning about the use of advertising techniques in advertising to children. Even though children are not yet fully able to use advertising literacy skills, parents do have the opportunity to teach children to be skeptical. They can serve as important gatekeepers between the media children are exposed to and the actions that result from watching this media (such as for example buying stuff they see in ads).

6.1. Limitations and suggestions for future research

Some limitations can be reported for both studies. For example, the sample size, particularly for study 1 is somewhat low, underscoring the need for future replication of the effects found in this paper. Also, although pretesting did show differences for the manipulations of attractiveness, manipulation checks were unsuccessful in both studies and could not prove that the attractive vs less attractive models were also perceived as such by children. Hence, we cannot convincingly claim that attractiveness in advertising is similar for all participants. Possibly, since pre-tests were within-subject designs, comparisons were easier for children. The differences in manipulations were very subtle, to be able to avoid that children saw that the pictures of the unattractive model were manipulated. Children also generally scored all models high on attractiveness, which might for example indicate that they are simply not consciously evaluating people as being less attractive.

Our manipulations of attractiveness did not always yield the expected result, so we decided to use the perceived attractiveness rating of the model. We used the attractiveness rating instead of the manipulated condition, since the attractiveness of the model can be perceived as an individual perception of the respondent. These perceptions of beauty might not always be in line with standardized perceptions of beauty, and are therefore difficult to manipulate. Although attractive models might be a useful advertising technique, it might be hard to assess what attractiveness exactly is for children. This also means that advertisers should keep in mind that beauty is in fact in the eye of the beholder.

Future studies could consider making the manipulating of attractiveness stronger, for example by exposing children to a series of models, instead of using only one model. This would allow researchers to filter out specific effects of one endorser. We also used non-idealized peer models in this paper. Yet, we might also wonder to what extent variations in level of attractiveness could have different effects. Studies could be set up to examine differences in low, average and highly attractive models.

We have shown that using attractive models in advertising is effective for young children. As Livingstone and Helsper (2006) suggest, younger children could be more persuaded by peripheral tactics like the use of attractive models. Future research could identify under what conditions central advertising elements are of importance for children. If model attractiveness increases advertising effectiveness, it might be interesting to examine if

this effect is even stronger for products that are somewhat related to the model's appearance (for example clothes and beauty products).

Future studies should also consider using different products, since we saw that product preference and previous product knowledge did have effects on the effectiveness of using attractive advertising models with regard to purchase intention. Although we did compose a new type of Wii game and used a new movie, children were somehow familiar with it. Examining products that are unknown to any of the respondents might be a solution.

Another limitation that should be considered is the fact that the covariates used in the second study have their limitations. Advertising literacy and influence of media on children's self-image were measured by using a general measure with items that reflected general beliefs of advertising and media. Future research could consider using scales that are more specific and reflect on the specific advertisements children were exposed to (for example asking them to what extent the specific ad was perceived as trustworthy or to what extent they experienced that the ad stimulated attractiveness comparisons). Additionally, one could also consider incorporating other dimensions of advertising literacy. The extent to which children might have persuasion knowledge might be an interesting factor, such as for example the persuasion knowledge scale used by van Reijmersdal, Rozendaal, and Buijzen (2012), as it incorporates a more cognitive aspect of literacy.

6.2. Conclusion

In sum, this paper draws on theories about children's cognitive development to argue that since young children have less cognitive defense mechanisms, they are very susceptible to advertising claims. The current studies are a preliminary investigation of how exposure to attractive peer models in advertising affect 6- to 7-year-old children's self-evaluation and ad effectiveness. Although attractive advertising models have no effects on self-evaluation, they do influence advertising effectiveness. Although both studies support our hypothesis, more insights are necessary to get a more in-depth insight in the use of attractiveness cues in advertising targeted at children.

7. Appendix A. Scales used in studies chapter V

7.1. Scales study 1

The children responded to all the questions on a five-point scale with non-verbal anchor points indicating (1) a very sad face, (2) a sad face, (3) a neutral face, (4) a happy face and (5) a very happy face. In addition to the scales and constructs used in the paper, children additionally also got questions about negative affective reactions towards the ad, and some general questions about the product and its category (e.g., attitude towards the brand, how much they watch DVD's etc.). Children also completed the "what-is-beautiful-is-good" characteristics of chapter IV in which they were for example asked to what extent they believed the model was also kind, helpful etc. At the end of the questionnaire, children also filled out the self-perception profile (Harter, 1985) and the six-item materialism scale for children of Opree, Buijzen, van Reijmersdal, and Valkenburg (2011).

Self-perception before seeing the ad - General Self-Worth

- Are you happy with who you are?

Self-perception before seeing the ad - Physical appearance

- Are you happy with the way you look?

Advertising effectiveness - Attitude towards the ad

- Do you like this ad?
- Do you think this ad is stupid (R)
- Do you want to see this ad again?

Advertising effectiveness – Positive affective reaction towards the ad

- Did you feel joyful while looking at the advertisement?
- Did you feel happy while looking at the advertisement?

Advertising effectiveness - Purchase and request intention

- Do you want this DVD?
- Would you buy this DVD at the store if you had enough pocket money for it?
- Would you ask this DVD as a present for your birthday?

Removed due to low reliability:

- If you could choose one item in a store, would you choose this DVD?

Previous experience with the product

- Did you know the DVD "Wreck-it Ralph" before you saw this ad?

Liking of the product category

- Do you like DVD's?

Attractiveness of the model

- Do you think this child is attractive?

Self-perception after seeing the ad - General Self-Worth

- Are you happy with who you are?

Self-perception after seeing the ad - Physical appearance

- Are you happy with the way you look?

7.2. Scales study 2

The children responded to all the questions on a five-point scale with non-verbal anchor points indicating (1) a very sad face, (2) a sad face, (3) a neutral face, (4) a happy face and (5) a very happy face. In addition to the scales and constructs used in the paper children additionally also got questions about negative affective reactions towards the ad, and some general questions about the product and its category (e.g., attitude towards the brand, how much they play Wii games etc.). Children also completed the "what-is-beautiful-is-good" characteristics of chapter IV in which they were for example asked to what extent they believed the model was also kind, helpful etc. At the end of the questionnaire, children also filled out the self-perception profile (Harter, 1985), an inventory measuring response bias and the six-item materialism scale for children of Opree et al. (2011).

Self-perception before seeing the ad - General Self-Worth

- Are you happy with who you are?

Self-perception before seeing the ad - Physical appearance

- Are you happy with the way you look?

Advertising literacy

- Does advertising make you want to buy stuff? (selling intent)
- Does advertising want to draw your attention, so you say 'hmmm… this is new, can I have it? (persuasive intent)
- Does advertising want to show what has been invented, what is new? (informative intent)

Advertising effectiveness - Attitude towards the ad

- Do you like this ad?
- Do you think this ad is stupid (R)
- Do you want to see this ad again?

Advertising effectiveness – Positive affective reaction towards the ad

- Did you feel joyful while looking at the advertisement?
- Did you feel happy while looking at the advertisement?

Advertising effectiveness - Purchase and request intention

- Do you want this game?
- Would you buy this game at the store if you had enough pocket money for it?
- Would you ask this game as a present for your birthday?
- If you could choose one item in a store, would you choose this game?

Previous experience with the product

- Did you know the game "Wii around the world" before you saw this ad?

Liking of the product category

- Do you like Wii games?

Media influence on self-image

- Do advertising pictures tell you who is attractive and what is in fashion? (information subscale)
- Do television and advertising want you to be thin and beautiful? (pressure subscale)
- Do you compare yourself with movie starts and television stars? (internalization-general subscale)
- Do you compare yourself with athletes? (internalization-athlete subscale)

Attractiveness of the model

- Do you think this child is attractive?

Self-perception after seeing the ad - General Self-Worth

- Are you happy with who you are?

Self-perception after seeing the ad - Physical appearance

- Are you happy with the way you look?

8. Appendix B. Comparison of age differences across chapters IV and V in effects of perceived model attractiveness on self-perception

8.1. Introduction

Chapter IV and V explore the effects of exposure to attractive versus less attractive models on self-perceptions and advertising effectiveness across different ages. Since the studies cited in these chapters used different models, different methods to manipulate attractiveness and different products, direct comparisons are difficult. This appendix, however, provides some insights in direct comparisons across the age groups of 6 to 7, 8 to 9 and 12 to 13 year old children by directly comparing the data from chapter IV and V.

8.2. Procedure

For children of 8 to 9 years old the data from the first study of chapter IV was used, for children of 12 to 13 years old the data from the second study of chapter V was used (we also removed the four respondents that were removed in that study). For children of 6 to 7 years old, the data from the second study in chapter V was used, because this study used a Wii game as advertising stimulus, which also resembles the product that was used in the study of 12 to 13 year old children.

To be able to compare the findings across the studies, we used the measures that were available for all the three studies. Across the three studies, ***perceived model attractiveness*** was similarly measured by asking children: "How attractive do you think this model/child is?" Across the three studies, two items were always incorporated to measure ***self-worth,*** namely the question "Are you happy with who you are?". To measure ***perceived physical appearance*** we have consistently used "Are you happy with the way you look?". Both items stem from of the Dutch version (Treffers et al., 2002) of Harter's Self-Perception Profile for Adolescents (Harter, 1988) and Self-Perception Profile for Children (Harter, 1985). These items were measured by using five-point scales indicating respectively (1) "NO!!!", (2) "no", (3) "In between", (4) "yes" and (5) "YES!!!".

Attitude towards the ad was compared by using two items that were used in all three studies, namely "Do you like this ad?" and "Do you think this ad is stupid" , which were based on previous research (Derbaix et al., 1999; Derbaix & Bree, 1997; Derbaix & Pecheux, 2003; Pecheux & Derbaix, 1999, 2002). ***Purchase and request intention*** was measured by

using the four items that were used in all studies and were based on studies of Derbaix and Bree (1997) and Mallinckrodt and Mizerski (2007).

8.3. Results and discussion

8.3.1. ***Effect of perceived model attractiveness on self-perception***

Results indicate that there is no three-way interaction effect of age, gender and perceived model attractiveness on children's *self-worth* after being exposed to the ad, when controlling for self-worth before being exposed to the ad ($F(2,205) = 1.77$, $p = .17$), nor did we find an interaction effect of gender and age ($F(2,207) = .15$, $p = .86$), gender and perceived model attractiveness ($F(1,207) = .02$, $p = .89$) or age and perceived model attractiveness ($F(2,207) = 1.50$, $p = .23$). Additionally, there was no main effect of gender ($F(1,212) = .54$, $p = .46$), age ($F(2,212) = 1.39$, $p = .25$) and perceived model attractiveness ($F(1,212) = 1.31$, $p = .25$) on self-worth after being exposed to the ad, while controlling for self-worth before being exposed to the ad.

We also find no three-way interaction effect of age, gender and perceived model attractiveness on children's *perceived physical appearance* after being exposed to the ad, when controlling for perceived physical appearance before being exposed to the ad ($F(2,205) = 2.02$, $p = .14$), nor did we find an interaction effect of gender and age ($F(1,207) = .23$, $p = .80$), gender and perceived model attractiveness ($F(1,207) = .37$, $p = .55$) or age and perceived model attractiveness ($F(2,207) = .04$, $p = .96$). Additionally, there was no main effect of gender ($F(1,212) = .13$, $p = .72$) and perceived model attractiveness ($F(1,212) = .70$, $p = .40$) on self-worth after being exposed to the ad, while controlling for self-worth before being exposed to the ad. Age did have a significant influence on perceived physical appearance ($F(2,212) = 3.86$, $p < .05$). Follow-up analyses show that 6 to 7 year old ($M = 4.50$, $SD = .09$, $p < .01$) and 8 to 9 year old ($M = 4.44$, $SD = .09$, $p < .05$) children are happier with how they look after seeing the ad (when controlling for the score they reported before seeing the ad) than 12 to 13 year old children ($M = 4.13$, $SD = .11$). There is no difference for 6 to 7 year old children compared to 8 to 9 year old children ($p = .67$).

8.3.2. ***Effect of perceived model attractiveness on advertising effectiveness***

There is no three-way interaction effect of age, gender and perceived model attractiveness on attitude towards the ad, when controlling for previous product knowledge

and attitude towards the product category ($F(2,203) = .02$, $p = .98$), nor did we find an interaction effect of gender and age ($F(2,205) = .06$, $p = .94$), gender and perceived model attractiveness ($F(1,205) = .00$, $p = .98$) or age and perceived model attractiveness ($F(2,205) = 1$, $p = .37$). Perceived model attractiveness ($\beta = .20$, $F(1,210) = 12.15$, $p < .01$) did positively impact attitude towards the ad. Additionally, there was no main effect of gender ($F(1,210) = .03$, $p = .87$). Age did influence the attitude towards the ad ($F(2,210) = 22.49$, $p < .01$). Follow-up analyses show that 6 to 7 year old ($M = 4.01$, $SD = .12$, $p < .01$) and 8 to 9 year old children ($M = 3.65$, $SD = .13$, $p < .01$) have a better attitude towards the ad (when controlling for previous product knowledge and attitude towards the product category) than 12 to 13 year old children ($M = 2.74$, $SD = .15$). Children of 6 to 7 year old also have a marginally significantly better attitude towards the ad than 8 to 9 year old children ($p = .06$).

There is a three-way interaction effect of age, gender and perceived model attractiveness on purchase intentions, when controlling for previous product knowledge and attitude towards the product category ($F(2,202) = 3.12$, $p = .05$) (see figure 6). For boys, there was no moderating effect of age on the relation between perceived model attractiveness on purchase intentions ($F(2,108) = 1.26$, $p = .29$). For girls, age moderated the effect of perceived model attractiveness on purchase intentions ($F(2,96) = 5.57$, $p < .01$). For girls of 6 to 7 years old ($F(1, 34) = .03$, $p = .87$) and 12 to 13 years old ($F(1, 26) = .09$, $p = .77$), perceived model attractiveness did not relate to higher purchase intentions. Girls of 8 to 9 years old did have higher purchase intentions if they believed the model in the ad was more attractive ($F(1, 32) = 23.55$, <.01).

We also compared the effects across the different age groups, but saw that for none of the age groups, gender had a moderating effect on the relation between perceived model attractiveness and purchase intentions, not for 6 to 7 year old children ($F(1, 81) = 2.12$, $p = .15$), nor for 8 to 9 year old children ($F(1,67) = 2.57$, $p = .11$) and also not for 12 to 13 year old children ($F(1.54) = .32$, $p = .58$).

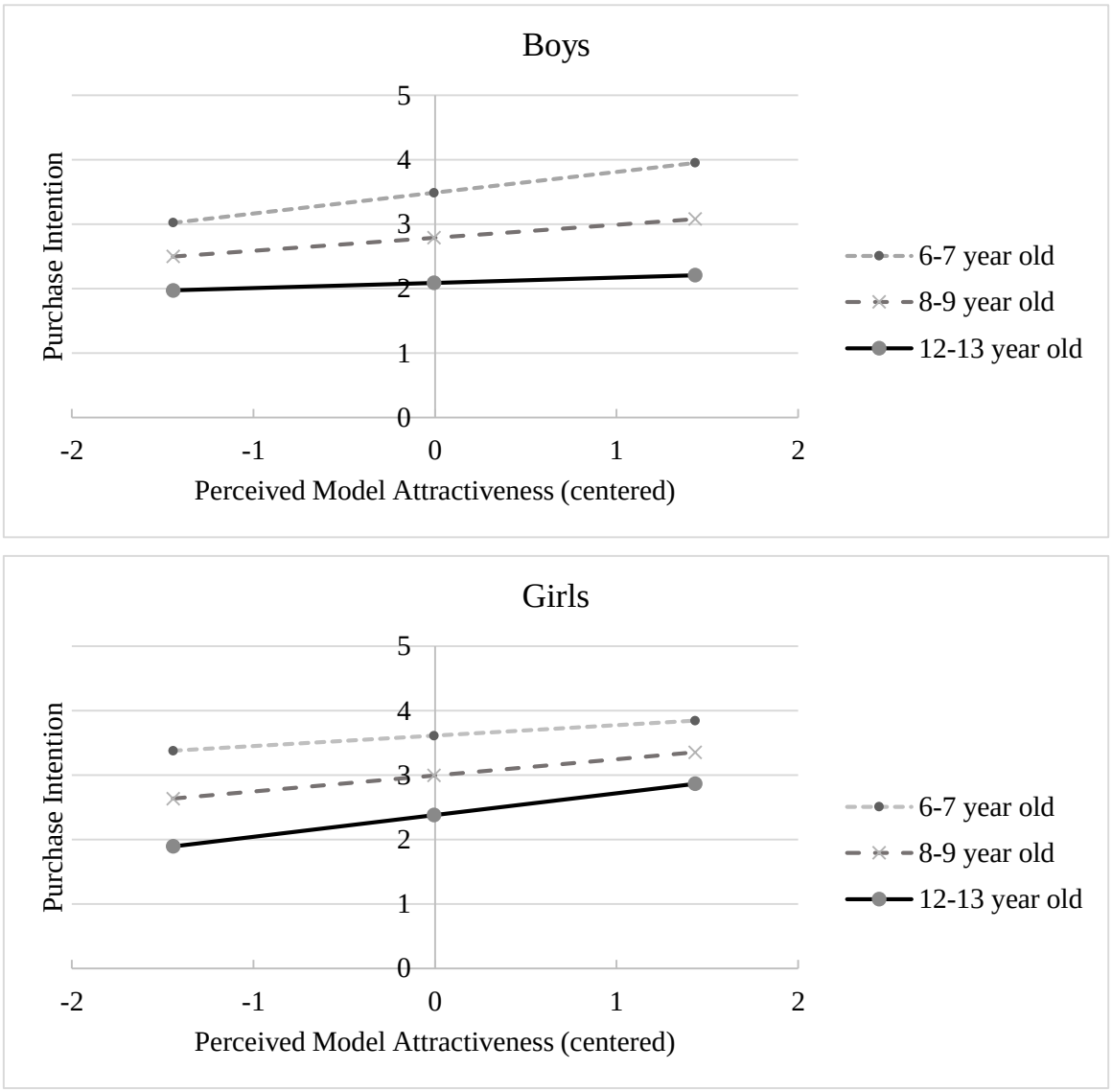

Figure 1. Three-Way Interaction effect of Gender x Age x Perceived model Attractiveness on Purchase Intention

8.4. Conclusion

When comparing the data across the studies for 8 to 13 years olds, some result are interesting to examine into detail. For example, 6 to 7 year old and 8 to 9 year old children seem to be happier with how they look after seeing the ad (when controlling for the score they reported before seeing the ad) than 12 to 13 year old children. This might be explained by the fact that previous studies have found that younger children seem to be highly positive about themselves, which declines as they grow older. Robins (2002), for example showed that self-esteem declined sharply from childhood (ages 9–12) to adolescence (ages 13–17) an body

image specifically decreases towards adolescence (Smolak, 2004). These results, however tell us little about the effects of perceived model attractiveness on self-perception and suggest that across our studies, children who see an attractive peer model are not particularly affected by it in terms of decreases in self-perception.

We do see that across ages, perceived model attractiveness brings about a better attitude towards the ad. Also, the younger children in the studies had better attitudes towards the ad than older children. This also gives us some additional information about the effects found in the chapter, since we can in fact argue that younger children are more affected by advertising than older children are. We can, however, not attribute this to the perceived attractiveness of the model – based on the comparisons in this study. Results also showed that girls of 8 to 9 years old had a higher purchase intentions if they believed the model in the ad was more attractive, while this was not the case for boys or for children of other age groups.

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CHAPTER VI
CONCLUSIONS, CONTRIBUTIONS AND FUTURE RESEARCH

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CONCLUSIONS, CONTRIBUTIONS AND FUTURE RESEARCH

The aim of this dissertation was to gain better insights in the consumer activities of children. In the introduction, two consumer activities were discussed that children come into contact with on a frequent basis, namely watching advertisements and engaging in consumer activities, such as play experiences. Across the chapters in this dissertation, we provided insights in both of these activities to get a better understanding of how children are influenced by our consumer society, for example by advertising exposure, but also to explore how they can actively take part in it by learning more about the consumer socialization process, for example by playing with toys and by using consumer goals while playing.

In this final chapter, a recapitulation and discussion of the findings for each chapter will be given. We will also provide general conclusions across chapters by exploring implications for theorists and practitioners and will provide the main limitations and some general suggestions.

1. Recapitulation of the findings

In part 1 of this dissertation, we reflected upon the idea solitary play activities can be linked to consumer behavior. Research on the relation between consuming, materialism and children's play is extremely scarce. In the introduction, we argued that play can incorporate elements that also relate to consuming, for example because objects that are played with are the materials that provide the possibility of play or because playing includes interactions with toys, selecting between play activities and different products (i.e. games), evaluating these games after playing and deciding to keep on playing the same game or choosing another game (Holbrook, Chestnut, Oliva, & Greenleaf, 1984; Holt, 1995). This makes play a "usage activity" within the consumer process that is worthwhile examining, especially since children's main daily activity is play.

Chapter II, "*I want, so I play. How materialism affects children's outcome and process oriented play*" shed light on the idea that materialistic values have their reflections in

children's play behavior. This paper argued that playing has a duality between certain output and end-state elements on the one hand and experiential, process elements on the other hand and proposes a typology of two play orientations, namely outcome and process orientation. We showed that (1) materialism relates to outcome oriented reasons to engage in a play activity, but not to process oriented play reasons, (2) both outcome and process oriented play relate to intrinsic play motivation and (3) while the type of outcome (perfect vs. imperfect) does not matter for materialistic children's intrinsic motivation, it does for less materialistic children, since they are more intrinsically motivated when the outcome of the play activity is imperfect (vs. perfect) and even more so than materialistic children. Our findings provide more insights in how children get motivated by playing and how materialism can be demonstrated in play. Our results also suggest that less materialistic people are better capable of deriving intrinsic motivation from these kinds of outcomes than materialistic people are, and that less materialistic children even derive more pleasure from imperfect outcomes than from perfect ones.

Chapter III, "*Playing by the book or not? Determinants for replicating and originating play behavior*" started from the observation that toy makers such as Lego often use toys and games that incorporate instructions, models and examples on the one hand, but on the other hand also offer unstructured and open-ended toys and that certain contexts might stimulate the use of each of these play methods differently. We therefore developed a typology of two types of play, namely replicating behavior (deferred from the developmental processes of imitation and reproduction) and originating behavior (deferred from developmental processes such as imagination and creativity). When children replicate, they follow rules, guidelines, instructions and models. When children originate, they employ their imagination, fantasy and can be creative. Study 1 verified these definitions and showed that children who play replicating believe they have to follow more rules and can do their own thing less than children who originate. A qualitative study showed that replicating is especially chosen when children have no inspiration and creativity, when children want to learn from others, adapt themselves to others or are scared of other people's opinion and because the end result is often better. Originating behavior is chosen when children want to use their imagination, when children want to teach others something, or want to adapt themselves to others by following their type of play, due to the negative reputation of replicating ("boring" or "dull") and due to a lack of resources (e.g., components, models or instructions). Additionally, when children have little experience with the type of toy or game, they play replicating, whereas

they play originating when they do have some experience, for example if they made the model in the past. Some of these determinants are more likely to converge in a school setting, while others are more likely to converge at home. The second study therefore experimentally tested this and showed that originating is particularly preferred in schools, while replicating play is more often chosen at home. This chapter provided insights in how and why children specifically play with products and toys. We showed that the distinction made by a lot of toy producers is valid and that children can provide us with a number of reasons why they rely on replicating or originating to a greater or lesser extent in certain situations. The appendix additionally showed that these play types actually lead to children's toys preferences.

The second part of this dissertations included chapter IV, *"Assessing the What is Beautiful is Good stereotype and the influence of moderately attractive and less attractive advertising models on self-perception, ad attitudes and purchase intentions of 8- to 13-year-old children"* and chapter V, *"The Influence of source attractiveness on self-perception and advertising effectiveness for 6- to 7-year-old children",* which both discussed one technique that is often used in advertising to children, namely the employment of attractive models. Marketers incorporate attractive spokespeople in their ads because people seem to have an innate preference for attractive people (Dion, Berscheid, & Walster, 1972; Langlois, Roggman, & Rieser-Danner, 1990). Attractive models also generate positive associations on characteristics besides beauty, which is due to the "what is beautiful is good" stereotype (Baker & Churchill, 1977; Dion et al., 1972; Parekh & Kanekar, 1994). Due to this stereotype, marketers think that the positivity around attractive models will also generate goodwill for the product and will bring about positive advertising effects.

Both chapters incorporated two specific elements to examine how children react to these attractive models. First, previous research has found that when attractive models in ads are used, advertising effectiveness is higher for ads with beauty products, because there is a fit between model and product in that case (Parekh & Kanekar, 1994). We examined whether non-beauty products would also stimulate advertising effectiveness, since children generally have lower capabilities to process and evaluate relevant advertising cues. Therefore, a pencil case, a movie and a Wii game were used as products in the ads, all of which are products that have no link with beauty. Second, in advertising for children, peer models are often used as endorsers for products – perhaps even more so than extremely exaggerated and Photoshoped images of endorsers (which is the case for adult advertising). However, research offers little insights in the effects of the use of these techniques, but instead focuses on idealized models.

Because young children have less developed ad processing skills, we examined if attractive peer models with no modified characteristics would also generate similar effects as we would expect for idealized models.

In chapter IV, we established the presence of the perceived attractiveness stereotype or the "what is beautiful is good" stereotype in children of 8 to 9 years old and 12 to 13 years old for moderately attractive models. Both age groups attributed several positive characteristics to attractive models and did this for a range of characteristics that were both related and unrelated to beauty. We did see that children of 12 to 13 years old also started to deviate somewhat from this pattern, and also believed that models they perceived as being attractive were less attentive in class and followed the rules less. This indicates that the attractiveness might work against people for some characteristics as children mature.

Both chapters explored whether attractive models had an effect on advertising effectiveness (attitude toward advertising and purchase intention) and perceived self-perception (self-worth and physical attractiveness). The two experimental studies in chapter V show that when children of 6 to 7 years old rate advertising models as being more attractive, advertising effectiveness raises (expect for purchase intentions in study 2), which is also the case for children of 8 to 9. Children of 12 to 13 years old, however, do not report higher attitude towards the ad or purchase intentions when being exposed to attractive models.

We found that for boys of 8 to 9 years old, self-worth is negatively affected by exposure to models that children evaluate as being attractive. For children of 6 to 7 years and 12 to 13 years old, no specific detrimental effects were found. We can explain this by zooming in on specific literature about the development of social comparisons. Children of 6 to 7 years old are not yet using social comparisons to re-evaluate their own attractiveness. They do compare themselves with others from an early age on, but do not use this information for self-evaluation purposes until they reach the age of about 7 to 8 years old (Ruble, Boggiano, Feldman, & Loebl, 1980; Ruble, Feldman, & Boggiano, 1976). This is exactly the age group in which we found effects on self-worth for boys. Perhaps children of 12 to 13 years old and girls of 8 to 9 years old are using other comparison targets than younger children do, for example celebrity endorsers and idealized models, which could explain why they are also not affected by attractive peers in ads.

2. Limitations

Some limitations are eminent in this dissertation and call for further research on this topic. For example, although we have attempted to provide convincing empirical evidence for the hypotheses in our papers, more research evidence with larger samples sizes are needed to back up these findings and to underpin some of the claims we make in discussing our results. Our operationalization of outcome and process orientation and replicating and originating play for instance is a first attempt to categorize these kinds of orientations and behaviors. Both should be further refined in future studies and should be conceptually purified, for example: can replicating and originating be two sides of one continuum or should they be seen as two behaviors standing apart from one another? How do different types of outcomes than the ones tested fit into the definition (for example, does winning a game match the descriptions, can acquiring an outcome also be seen as reaching an end-result, can outcome and process orientation be instrumental for each other etc.). Also, in chapter III, we draw on literature about imitation, imagination and creativity to distill originating and replicating behavior, but future research should empirically test whether these behaviors also actually stem from these developmental skills. Likewise, in chapters IV and V, we argue that attractive peer models and idealized models might cause different reactions for children of different ages and genders and that the effect could be due to social comparison theory, but we do not test these assumptions. Future research is therefore needed to explore these elements.

Also, since this dissertation deals with young consumers and thereby also puts emphasis on age as an important factor in consumer socialization, we must note that the age range used in this dissertation is narrow. Chapter II and III specifically center on respondents of the age of 8 to 12. This was a deliberate choice, since we wanted to make results as concise as possible, and because it is difficult for children younger than 7 to express their preferences, goals and motives, which was the central question in both chapters. For chapter II, for instance, children within this age range were selected because children are said to develop materialistic values around the age of 8, where children below this age do not yet express these motives. Nevertheless, by doing so we exclude children who are younger and for whom play might be an even more important activity (Bergen, 1998).

Likewise, in the second part of the dissertation, we specifically focus on children of 6 to 7, 8 to 9 and 12 to 13 years old, but are unable to get into statistical differences between these different ages – due to different measurement methods (such as anchor points), different

models, different products etc. These choices were made deliberately to reduce noise in the data, but also make comparisons between these age groups difficult. Although an attempt to compare these age groups was made in the appendix of chapter V, different products and models were used, and the way in which attractiveness was manipulated is also sometimes different. These comparisons would be interesting though, especially because it would provide more insights in the way in which perceived attractiveness stereotypes for example develop and to what extent they have an impact on intended and unintended advertising effects across different age groups. The processes underlying potential age and developmental differences would also be interesting to look at (for example social comparison theory for the effects of perceived model attractiveness on self-perceptions and advertising literacy and persuasion knowledge for the intended advertising effects).

Additionally, we thereby also exclude other age ranges from our focus. Especially research on children younger than 6 to 7 years old would be interesting, since these children are rarely used as respondents in consumer behavior research, while children above 12 to 13 years old have been the focus of previous studies in exposure to attractive advertising models (Martin & Gentry, 1997; Martin & Kennedy, 1993).

Age is often used a proxy for a child's stage of development, but future studies might incorporate measures of actual development (such as cognitive skills) to be better able to examine its effects. This is interesting especially since children of similar age can also differ in the level of consumer development or consumer socialization (Nairn & Fine, 2008). Not all children are equally adapted and skilled to react to advertisements in terms of advertising knowledge (which could be interesting for the findings of chapters IV and V), but children's development might also be important for chapter II and III, since it can for example also determine how children play and to what extent they for example play outcome or process oriented or focus on replicating or originating.

One prominent limitation across the studies presented is that in chapter IV and V, manipulations of attractiveness did not yield the anticipated results. We therefore relied on alternative solutions by employing the attractiveness rating of children. This technique was used to improve consistency across both chapters and across the different studies (studies in which the manipulation did and did not succeed), but might also bring about other concerns, such as the fact that results remain correlational in this way and causal inferences are difficult to make. Using children's own attractiveness ratings can also not exclude that the relation

works the other way around and that children infer good looks from positive personality characteristics (a common concern for attractiveness research that is also put forward by Eagly, Ashmore, Makhijani, and Longo (1991)). We can thereby also not exclude that young children rate models high on all characteristics by means of a positive affirmation bias - although there are studies that find that children of 4 to 5 years old have already outgrown this to some extent (e.g., Fritzley & Kang, 2003).

Although the manipulation worked in the pretest, which was performed with a within-subjects design, they often failed for the boys of the actual study, which was a between-subjects design. Between-subjects designs might make attractiveness differences less obvious. This can actually be more relevant for children than for adults, as children sometimes still lack certain skills that allow them to properly inspect the detailed structure of facial characteristics (Baudouin, Gallay, Durand, & Robichon, 2010; Vingilis-Jaremko & Maurer, 2013).

This might also means that especially boys fail to make beauty attributions, which might have several reasons. For example, boys might be less susceptible to beauty. Also, it is possible that the gender of the model is in fact causing the differences. Little, Jones, and DeBruine (2011) argued that although there is a lot of research about the facial attractiveness of women, we know relatively little about attractiveness of men. They also claim that people seem to find feminine faces more attractive. Future research could evaluate if young girls would also be less able to identify attractiveness in boy models, since it would give more evidence to support the hypothesis that it is more difficult to evaluate men and boy's attractiveness. Additionally, future insights can provide evidence for the underlying reasons for this. For example, stereotypes about male facial attractiveness might develop later on in people's lives, for example because girls are more exposed to beauty and attractiveness appeals such as in girls' magazines (Jung & Bie, 2014).

Furthermore, the failed manipulation described previously also discloses a pain point in experimental research with children that future research could look into. Children are not the same consumers as adults are and likewise also not the same respondents as adults are. Methodologically speaking, marketing research is highly aware of what is and what is not to be considered reliable quantitative research. For children, however, there is less literature that for example examines scale development, experimental rigor etc. We should also acknowledge that we cannot always deduce research techniques for children from our

knowledge about doing research with adults. In chapter III, we therefore specifically stepped away from quantitative measures and incorporated in-depth interviews to be able to reflect upon underlying motives and determinates, specifically because several unreported experimental studies that were performed for this project were unable to exactly grasp children's true opinion.

Most of our studies also focus on a small and narrow range of situations, stimuli and behaviors. For example, by making the choice to only include toys, games and a pencil case as products in chapter IV and V, we exclude a range of products that might also be valuable to examine. Maybe children would respond different when beauty products were compared to non-beauty products or when experiential versus material purchases were advertised. For example, because experiences are said to bring happiness due to a link with significant others who share the experience (Nicolao, Irwin, & Goodman, 2009), they might also be more linked to a peer. If the endorser is an attractive peer, the effect might even be bigger. Likewise, we could expect different results when "immaterial" play activities were selected in chapter II that had no possible tangible outcome. Also, in chapter III we focus on schools and home situations, since these are the places children spend most of their time, but by doing so, we overlook a bunch of other places, such as youth movements, houses of friends etc. For example, youth movements seem to be particular places in which originating behavior is stimulated (there are not always plenty of recourses, replicating behavior might be frowned upon etc.) so examining the impact of different situational factors such as these might expand our results.

Likewise, chapter II and III focus on solitary activities, but future research might look into play activities that specifically include social contact in play with peers, such as parallel play, cooperative play, associative play etc. (Parten, 1933; Piaget, 1962; Rubin, Maioni, & Hornung, 1976). Experiences in general are also often enjoyable simply because they can be shared with others (Nicolao et al., 2009), so the presence of others can be of importance. Group play differs in the way in which peers are involved in the play process and are different from solitary play in many ways (Parten, 1933; Piaget, 1962; Rubin, Fein, & Vandenberg, 1983; Rubin et al., 1976). Solitary play is for example present very early on in a child's development, whereas cooperative play only emerges later on (Parten, 1933). This can also be related to our typology of chapter III, since we found that replicating play is engaged in to learn a play activity, while originating play is often engaged in after the first learning stage is overcome.

Additionally, the social component of play might even be more prone for originating play and therefore future research might examine if group play could be more originating, whereas solitary play could be more replicating. This can for example be the case because previous research has found that social flow experiences (such as for example playing football in group) are perceived to be more enjoyable than solitary flow experiences (such as playing golf alone) (Walker, 2010), because people tend to get more sense of flow (a correlate of creativity) from experiences shared with others. Also, people seem to be more willing to take risks (which is also related to creative thinking and creative behavior) when they are playing in a team or group (Cohen, Ejsmond-Frey, Knight, & Dunbar, 2010; Ryu & Parsons, 2012). All of these studies seem to suggest that people might experience benefits from others on creative experiences. Perhaps, originating experiences might therefore also be more stimulated and more joyful when they are shared with others. This is particularly interesting in light of our studies in chapter III, as we saw that children prefer more originating play in schools and schools typically have more peers present and thus provide more opportunities for social play.

This can also be relevant for chapter II, in which we found that materialism stimulates outcome oriented play. Since materialistic people are less often retrieving intrinsic motivation from other people, but focus on products and acquisitions instead, it might be especially non-materialistic people that retrieve enjoyment from group play.

3. Theoretical Contributions

A number of theoretical contributions arise from the results of this dissertation. In the introduction, we stated that children are special consumers due to their underdeveloped consumer socialization skills and due to the fact that they engage in different consumer activities. Across the chapters, we have explored these elements and gave insights as to how children can express their role as consumers in activities that are perhaps less often tapped into in consumer behavior and consumer psychology research.

The chapters can contribute to understanding of the importance of different consumer activities in each step of the consumer socialization process. One of the seven sins of consumer research, as described by Pham (2013), was that research in consumer behavior and consumer psychology might benefit from a focus on other parts of the consumer process, such as usage activities. Since all of the presented chapters incorporated toys, games and play

activities, we add a little piece to the puzzle of how play can be related to usage activities in the consumer process, for example by showing that materialism can have effects on play choices (chapter II), or that play behavior preferences can lead to toy choices (chapter III, appendix A). Some insights in desire activities of children's consumer process can also be retrieved from this dissertation. We show that advertisements with attractive peer models can still engender ad effectiveness for children of 6-9 – also for products unrelated to beauty – and for peer models.

By examining toys and games, this dissertation also provides some insights in a product area that is not often looked at. A lot of studies actually focus on children's food preferences and food intake when examining consumer behavior in children. Although we believe that research on food intake for children is necessary, the focus on other types of products is somewhat neglected in all kinds of research streams examining children. All papers in this dissertation therefore specifically deviated from this by focusing on advertisements and engagements with toys or play materials.

A first research stream for which our results can be of importance is theory building on motivations, aspirations and goals, such as self-determination theory. We have for example shown that materialism is not necessarily only associated with acquisition activities, but can also have effects on the goals children pursue in play. This can be a particular addition to self-determination theory (SDT). In SDT (Deci, 1975; Deci & Ryan, 2000), materialism has often been linked to extrinsic aspirations and goals, which in turn are related to lower well-being (Kasser & Ryan, 1996). Since we show that materialism is indirectly related to intrinsic motivation through outcome orientation, we show that materialism does not always need to be detrimental. This is even in line with the definition of materialism we proposed earlier on. Shrum et al. (2013) define materialistic people as people who see the acquisition and use of products, services, experiences, or relationships as a way to construct the self, so achieving intrinsic motivation by playing might be one way to achieve benefits for the self – despite the fact that they may eventually stem from extrinsic pursuits, they can still engender (short term) task motivation.

We can also add in some way to existing literature on the experience recommendation theory (Nicolao et al., 2009; Van Boven, 2005; Van Boven & Gilovich, 2003). This theory often makes a distinction between experiential and material purchases. Experiential purchases are related to life experiences and events, whereas material purchases are related to acquiring

material and tangible possessions (Van Boven, 2005). Usually, this stream of literature argues that the goal behind spending money on experiences can be the acquisition of a life experience through participation in an event (Millar & Thomas, 2009; Van Boven & Gilovich, 2003). Materialists would rather spend their money on material items instead. Since we have agreed with the idea that by definition, play is also engaged in to achieve an experience (an retrieve motivation), this would however mean that in the case of children's play behavior, all kinds of play would in essence rather be non-materialistic. We however add to this claim and to theory about the experience recommendation by finding that although play is in fact intrinsically motivated and therefore engaged in to eventually achieve a life experience (and yield intrinsic motivation), materialistic children are outcome focused in that way that they reach motivation from this experience by focusing on its object and end-result.

This dissertation might add insights to literature about product co-creation and creativity in product design. In marketing literature, Dahl and Moreau (2007) argue that adults sometimes follow instructions, models or plans when they engage in creative experiences, for example in hobbies. These appear in baking kits, do-it-yourself-sewing boxes, painting-by numbers etc. Dahl and Moreau (2007) classify these examples as 'constrained creative products' a concept which relates to the products people buy in order to engage in this creative process. These products entail an explicit constraint in either the process (e.g., a set of instructions) or the outcome (e.g., a visual representation of the end product). Examples are products that require assembly (e.g., baking kits), how to guides, recreations of art, paint by numbers kits etc. We have shown in chapter III that children also engage in behavior that is quite similar to creative constrained tasks, namely in replicating play. Additionally, research on constrained creative experiences has shown that restrictions in input material can increase creative output (Moreau & Dahl, 2005; Sellier & Dahl, 2011). In chapter III, we have added to this by finding that children also make different play choices when they are restricted in resources, toys and materials and also opt for more originating play in that case. Previous studies on constrained creative processes have specifically focused on constraints in product co-creation settings (Dahl & Moreau, 2007; Moreau & Dahl, 2005; Moreau & Dahl, 2009), which is not what our chapter looked into, yet some of the determinants for being willing to produce creative constrained products show resemblances with the determinants we have found in our paper. Adults find it for example also positive that these products give assurance and certainty about the outcome of the project and they also appreciate the low skill requirements and the learning opportunities (Dahl & Moreau, 2007).

We also contribute to insights in the "what is beautiful is good" stereotype. Most studies on adult exposure to attractive models focus on idealized images of advertising models, while we zoomed in on peer models. Our study shows that for children of 8 to 9 and 12 to 13 years old the stereotype also holds for moderately attractive peer models, who are also attributed with more positive characteristics than less attractive peers – even though Bower and Landreth (2001) suggested that this should not necessarily be the case for adults because normal attractive models are also deemed to be more equal to the consumer and may thus have flaws and imperfections. We show that this claim is not always true for children.

For 12 to 13 year old children, we found no effects, which is in fact not surprising. First, it is in line with the match-up hypothesis that argues that for adults, products must be somehow related to beauty appeals if an attractive endorsers is to be effective (Kamins, 1990; Till & Busler, 2000). Even though we do not use highly attractive models and even though previous research showed that this match-up hypotheses is especially relevant for highly attractive models (Bower & Landreth, 2001), we show that 12 to 13 year old children who perceive a peer as being attractive also do not always translate this in a higher attitude towards the ad or purchase intentions. Second, as people grow older, they also learn more and more cognitive defenses against advertising (Nairn & Fine, 2008)(John, 1999). Even though they do not always use these defenses, they are either way more equipped with ad knowledge than younger children are (Nairn & Fine, 2008). They might be the ones that need more than one exposure to be convinced of the product and to link model attractiveness to ad attitudes and purchase intentions. Since advertising effectiveness raises for younger children, this would suggest that for them either the match-up between model and product category is irrelevant or the match-up is in fact there and for them, normally attractive peer models can in fact represent products such as toys.

Chapter IV also included some interesting findings that might be of value for literature on gender differences in the 'what is beautiful is good" stereotype. More than girls of that age, boys of 8-13 years old believed that attractive models also had some other positive characteristics (8- to 9-year-old boys: being good at sports and being happy; 12- to 13-year-old boys: being helpful and having a lot of friends). Previous research would, however, rather argue that girls and woman are more likely to display the stereotype (Kaplan, 1978; Van Leeuwen & Macrae, 2004). The fact that our paper shows that boys rate attractive people more positive on other characteristics than girls do indicates that the "what is beautiful is good" principle is not necessarily always strongest for girls.

Additionally, girls of 12 to 13 years old attributes more positive characteristics to the female models than boys did for the male model. Girls believe the model is friendlier, kinder, smarter, more helpful, more honest and also believe that she pays more attention in class and follows the rules more. These results also match existing streams of research on gender differences in personality traits, for example studies that measure the NEO Personality Inventory, which assesses the Big Five personality traits (extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience) (Costa & McCrae, 1992). Our findings are similar to results of (Costa, Terracciano, & McCrae, 2001; McCrae et al., 2002), who examined general gender differences in self-reported personality inventories. They showed that girls actually score higher on neuroticism, agreeableness, warmth, and openness to feelings (Costa et al., 2001), which can be related to the specific characteristics in our study. This could imply that woman not only evaluate themselves higher on these characteristics, but that girls as young as 12 to 13 years old also attribute these characteristics to other females.

In the introduction, the importance of children's development for their level of consumer socialization process was discussed. Our findings can contribute to understanding this process for children. For example, the age ranges we have examined in chapter IV and V also match certain developmental stages children go through. Advertising effectiveness was higher for 6 to 7 and 8 to 9 year olds when they believed the advertising model was more attractive, but this was not the case for 12 to 13 year olds. At the age of 6 to 9, children have not yet developed the necessary skills to act as fully informed consumers (John, 1999; Nairn & Fine, 2008). The age of 6 to 7 years reflects a phase in which children are not yet fully aware of the persuasive intent of advertising, are more focused on perceptual than on cognitive information in ads and are more focused on irrelevant rather than relevant ad information (John, 1999; Piaget, 1964). This also extents to advertisements of attractive peer models – and even to products unrelated to the attractiveness appeal. However, we also saw that children of 6 to 7 years old might have advertising knowledge and persuasion knowledge, yet they still use attractiveness as a cue to evaluate advertisements. Advertising literacy even had no effect on advertising effectiveness in chapter V. This can relate to the limited information processing stage children are in at that age (John, 1999), in which they might build up knowledge about advertising, but are largely unable to use this information and put it into practice.

This dissertation also builds on theoretical foundations of several research domains and the results can therefore also be applicable to diverse research fields. Disciplines such as consumer behavior, child development and psychology were explored. Chapter II, for instance, showed that children's play can be instigated by material motives – or a lack thereof. We showed that this happens even for children as young as 8 years old, who are said to be in a life stage where they experience a boost of material values (Chaplin & John, 2007). This can not only teach us something about how materialistic and anti-materialistic values can be expressed at a certain age (maybe even younger than literature currently assumes), but can also give more insights in the field of play itself, since it is built upon choices that are driven by (anti-)material goals.

The dissertation also provides some additions to establishing the description of the concept of play. Additional theoretical contributions for the field of play behavior can be found in the definition of play that was specified in the introduction – which was defined by means of the findings of chapter II and III: *Play is described as an intrinsically motivated voluntarily performed activity, in which people actively engage and which can express repetitive, rule based and reproductive as well as creative and imaginative actions and can incorporate actions with and without tangible objects and products.*

This definition challenges some of the characteristics that academic literature has put forward for behavior to incorporate before it can be labeled as being play. One characteristic of play was that it was seen as purposeless (Pellegrini & Smith, 1998). In chapter II, we have challenged this assumption and proposed two play reasons, of which "outcome orientation" was related to specific outcomes of a game and could therefore be seen as incorporating a play purpose.

Another characteristic that we explored was the one proposed by Rubin et al. (1983), who called play nonliteral - in the way that it should be detached from reality, structural and temporal different from other behavior and should incorporate experimentation. This would relate more to the originating play we described in chapter III, while other play characteristics relate more to replicating play. With chapter III, we show that replicating play, which includes a reflection to existing examples, sometimes even a reliance on literal imitation of other work, is also seen a play and can also be freely chosen by children. Correspondingly, Burghardt (2005) defines play as repetitive, repeatedly performed and other authors see play as an

activity where rules are important (Huizinga, 1955). Rule following was even one of the elements that we found to be defining replicating play.

We have also given some insights that support some of the established characteristics of play. One of the characteristics of play that was most agreed upon was its endogenous and voluntary function, which argued that at its most elementary definition, play assures that there is an element of fun, pleasure, intrinsic motivation or enjoyment (Barnett, 2013; Eberle, 2014; Garvey, 1990). We also agree with the premise that play is by definition chosen freely (Rubin et al., 1983) and players should do it voluntary, without feeling forced or obligated to perform the activity (Johnson et al., 2015). This was also reflected upon in chapter III, where some children referred to play that was not voluntarily engaged in as "tasks". We agree with this in our definition of play and also add to this by the findings of chapter II, which showed that this is also true for play orientations that relate to materialistic goals (such as outcome orientations). Additionally, we also added to the idea that play is relaxed, free from stress and agitation, since chapter III clearly showed that children even use play to regain that state of relaxation.

4. Practical contributions

Across the chapters, some overarching practical implications are emerging from the results. We suggest several elements marketers could learn from these results and also give some insights in what public policy makers and caretakers could undertake to sensibly assist children in their consumer socialization process and to give them more opportunities for positive contributions to well-being.

Our findings can be used by marketers in advertising and communications. For example, for chapter II and III, marketers might make use of the proposed play orientations (outcome and process) and behaviors (replicating and originating) to better understand what children want in a play activity and what drives them. Toy makers can take these results into account to be able to assess what effects their products have on children.

Our results also provide insights for practitioners wishing to use normally attractive peer models in advertising. Our results might help advertisers to be better able to forecast peer model effectiveness in advertising targeted at children. For example, our results suggest that the technique does not necessarily work for 12 to 13 year old children, but that it can be effective for 6 to 9 year old children.

Several results also point towards the idea that children's touchpoints with consumer values and engagement in consumer activities have effects on their wellbeing, which can be taken into account by marketers and can provide caretakers with insights.

For example, boys of 8 to 9 years old's self-worth is negatively affected by watching attractive peer models. This suggests that marketers should evaluate their use of attractive spokespeople, because they might affect children's happiness.

Parents, schools and other caretakers also have responsibilities, however. They are the ones that are in charge of the direct education of children. Caretakers are the ones that buy children toys and materials and might instigate an exposure to consumer values by doing so. For example, previous studies suggest that parents invest a lot of money in their children, of which a lot goes to toys, and even more so in recent years (Kornrich & Furstenberg, 2013). This is not always a good way to teach children about consuming and is also not necessarily beneficial (Richins & Chaplin, 2015). Chapter III also found that a lack of materials and resources stimulated originating behavior – which goes against this overload of products bought for children.

Chapter III suggests that caretakers are sometimes preoccupied with what they believe "good behavior" and "educational behavior" is. In the third study of chapter III, some children indicated that parents and teachers advocated replicating play, for example in the form of arts and crafts classes, but also in "free play time". This is can be detrimental because both replicating and originating play can be seen as essential in learning a certain skill and children also indicate this themselves. The study also showed that this can backfire, since children rather shift to originating play if they feel restricted in some situations. We therefore believe it is beneficial to integrate findings from studies such as this one to step away from subjective beliefs that are still advocated and to look at how children can have their own say in how they perform play activities, yet still be motivated to optimize their learning experience. Some examples pop up in the previous chapters that might stimulate a debate about whether children should have more of a say in their play activities and in the way they play. For example, some play behavior should not be judged on too quickly. For example, parents might be upset when children leave play activities unfinished and never seem to complete a game. We show in chapter II that this might even be related to less materialistic values.

We found that in chapter II, materialism was related to play reasons, which were in turn related to intrinsic motivation. A focus on end-goals and end-results is therefore not necessarily a cause for concern for caretakers in terms of children's well-being. Outcome oriented play might also be satisfying play and might render a child with feelings of enjoyment and interest. We do however need to specify that these outcome orientations relate to general materialistic values and this might be more problematic. As mentioned in the introduction, materialism is seen as an undesired effect of advertising because it has been associated with decreases in several aspects of well-being, such as for example self-appraisal, self-esteem, physical health and the engagement in several health risk behaviors (Dittmar, Bond, Hurst, & Kasser, 2014; Vansteenkiste, Soenens, & Duriez, 2008). Additionally, process orientation was stronger related to intrinsic motivations than outcome orientation was. Since we have shown that materialism indirectly relates to intrinsic motivation through outcome orientation, it is necessary to get more insights in the impact of materialism on play to help children in developing a beneficial consumer view that does not challenge their well-being. Is outcome orientation for example beneficial for intrinsic motivation on the long term?

5. General suggestions

From these contributions we can also distill some general recommendations and suggestions that benefit from more theoretical and empirical evidence.

First of all, some of the findings in the dissertation might provide advertisers with inspiration to align their products and ads more with children's play needs. Marketers might come up with new products, new advertising campaigns that are better aligned with the typologies described in chapters II and III. This is especially relevant since we saw from the appendix of chapter III that play behavior can lead to product preferences. For example, as we saw that children can play replicating and originating with one and the same toy set, it might be interesting to provide children with the tools and knowledge needed to actually do so. This might be beneficial for sales.

Also, marketers might use the play determinants we have found in chapter III as advertising claims in their communications. Perhaps certain toys or games match the description of being rather replicating or originating and therefore toy makers can also provide reasons why children would have to play replicating or originating with the toys or games (e.g.: ability to be creative or tap into fact that the toy can be used without to many additions/recourses).

Another suggestion would be to examine if it is beneficial for practitioners to make sure that children are able and willing to play with the provided toy. Toys producers can stimulate this by providing plenty of online how-to-movies for replicating toys to start the learning process or by prolonging the play process by also providing ideas on how to originate with the game. A lot of advertising also focuses on outcomes in play (which is often done for example with idealized pictures of pain-by numbers kits, focus on winning and reaching the last level of a game), so advertising might try to stimulate less materialistic children by making toys and games more suitable to their needs, for example by not stressing an idealized outcome of play activities in advertising, but rather stress process elements and make imperfect outcomes valid or by making games enduringly satisfying by prolonging the duration and postponing end-phases (this is for example done in video-games, where it is hard to finish all the levels of a game – sometimes an addition to the game is launched that even further extends the end-phase of the game).

Chapter IV and V also bring about some suggestions for future research and some general recommendations to public policy. Across studies IV and V, children still rated the peer models as highly attractive and for most of the studies, the boys did not differentiate between the attractive and less attractive condition. Our results therefore indicate that for young children, attractiveness might be difficult to manipulate – especially for boys. Research should look into the reasons why this is the case. Are children –and maybe especially boys- for example less judgmental about beauty at that age? Do they have different standards for what is and what is not attractive? For example, we used facial symmetry, glasses and hormonal characteristics to differentiate between attractive and less attractive models, but we based this on research that has been performed some while ago – and often only with adolescents and adults. Perhaps these beauty standards have changed for children or perhaps there are cultural differences between our sample and the samples in the original studies.

There is evidence that suggests that as children mature, they also gain more and more abilities to process facial characteristics in a refined way an learn how to see minor details in faces, which they do not see when they are younger. Since our manipulations of attractiveness failed for boys, future research might establish if this is due to the fact that boys focus less on these minor details or are less capable of seeing them. The fact that some children might not see minor facial details should level out when an attractiveness rating is used instead of the manipulation and this is actually the case. We also show that when we look at the perceived model attractiveness (regardless of the manipulations), children do evaluate more attractive

peers as more positive on other characteristics. This could imply that for children who do see the (un)attractiveness of the model, and children who are therefore able to recognize fine-grained characteristics of beauty in models, the PA stereotype holds.

Future research should also establish if there is in fact a linear trend of age for the effectiveness of using the PA stereotype, since we cannot definitely conclude this from our results. There are some suggestions in literature that would imply so. While adults are often seen as competent consumers as they have acquired all of the necessary developmental skills, children are less competent to actually have and use all of these necessary skills (Moses & Baldwin, 2005). So it would seem as if children are most likely the ones for which advertising techniques, such as beauty appeals, work best. For adults, they might also be effective, but this effectiveness depends upon their willingness and capability to process the ad claims.

Idealized and manipulated images of models are also not the only advertising sources that should be taken into account in advertising research. Our results show that for children of 6 to 7 and 8 to 9 years old, advertising effectiveness is higher when peer models are perceived as being attractive. This might suggest that more subtle and covert messages and cues might still be generating advertising effectiveness. Unfortunately for boys of 8 to 9 years old however, they also generate negative self-worth effects.

It might be worthwhile to have a more in-depth look at how children can be made aware of the effects of consuming on their lives. For example, it is advisable to educate children more about the perceived attractiveness stereotype and its use in advertising. Children have to be made aware of the possible effects of it, especially since the stereotype is learnt early on and extends to (moderately) attractive peer models and products that are unrelated to the beauty appeal. Also, the impact of materialism on children's play behavior is important for caretakers, parents, educators, and public policy officials, as it could give them the opportunity to help reduce harmful effects of materialism on children. They could be the ones that assist children in making responsible choices and could assist them in reasoning about why they make certain play choices. This education can happen early on and can be instigated by several actors, such as media, parents and policy makers.

Policy makers are in fact already making contributions to put media literacy in general on the agenda. Europe, for example, launched specific initiatives on consumer education. In 2012, the European Commission started the European Consumer Agenda, a strategic vision

on the growth of consumer policy in the next years in line with Europe's growth strategy (Europe 2020). This agenda also presents measures taken to empower consumers and boost their trust (European Commission, 2012). To improve consumer education and consumer knowledge, diverse initiatives were launched, among which "the consumer classroom", a website aimed at teachers from secondary schools. This website is an online platform, where teachers can share class material about topics that encourage consumer education for 12 to 18 year old students[10]. Despite the importance of this initiative, similar material on consumer education for children below that age is less developed, although there are recent developments in this direction. For example, there is a collaboration between the Flemish government and several stakeholders who launched the initiative "Vlaamse Kenniscentrum Mediawijsheid" that informs and educates people about media, but also wants to have an active role in the policy development about media literacy in Flanders. They also focus on making children more advertising literate and have specifically developed educational material to do so[11].

A lot of work is yet to be done, however. The integration of beauty stereotypes might also be implemented in these programs for example. Additionally, children get into contact with consumer behavior, consumer values, stereotypes, products and media not only through advertising but also through movies, television shows etc. Policy makers should therefore aim to inform and educate children in these different media channels and point out for example the existence of the PA stereotype through different educational methods. There might also be more of a focus on how consuming can be seen in typical everyday activities and we might stress development of materialism more in these educational programs (such as for example standardized lesson materials, educational movies in which these elements are discussed etc.), we might also invalidate the PA stereotype in public television shows and/or regulate the instances in which the physical attractiveness stereotype is strengthened (for example, movies, TV shows). Caretakers should also be encouraged to teach children to use the physical attractiveness stereotype less or should invalidate this stereotype by showing its falsehood when children watch advertisements or media that incorporate the stereotype.

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[10] The Consumer Classroom, launched in 2013: http://www.consumerclassroom.eu/.

[11] Vlaamse Kenniscentrum voor Mediawijsheid, launched in 2013 by the Flemish Government and iMinds Media: https//mediawijs.be/

6. Concluding thoughts

In the introduction we already mentioned that in a typical day of a child, consumer values, stimuli and culture sneak in in a lot of activities. We talked about branded toothbrushes, advertised cereals and commercials starring idols. From what we have examined in this dissertation, we can also conclude that even in children's play behavior, these elements are present. Children's play motives can be engrained with materialistic or anti-materialistic values and thereby impact children's motivation, seeing children play can for example tell us something about how they experience their environment and what toys they will prefer. Consumer activities can have effects that lead to consumer behavior (such as improved attitudes for advertised products, materialistic values that become embedded in play, choosing products that relate to preferred game types, etc.), but we must also aware of the fact that certain elements of these activities may have an impact on for example, how children will assess their own self-worth, or how they get satisfaction and motivation.

We therefore suggest a more in-depth look at the ways in which consumer activities and consumer values (such as materialism) further impact children's activities. When children are young, they learn skills, values and attitudes that can assist them in making consumer choices later on in life (Nairn & Fine, 2008). Different research disciplines agree that childhood experiences are contributing to a child's later development as a consumer (Ward, 1974), so consumer activities in their childhood might not only affect their current behavior, actions and well-being but could also have effects later on in life.

7. References

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